

```
In [1]: import pandas as pd
import numpy as np
import seaborn as sns
import sklearn
import matplotlib.pyplot as plt
```

```
In [2]: data = pd.read_csv("/Users/inakolluvishnusai/Downloads/GE.csv") #importin
```

```
In [3]: data #insights of data
```

```
Out[3]:
```

	Date	Open	High	Low	Close	Adj Close	Volume
0	1962-01-02	4.691347	4.769536	4.644433	4.675709	0.784582	345317
1	1962-01-03	4.652252	4.652252	4.613158	4.628796	0.776710	236606
2	1962-01-04	4.628796	4.667890	4.534969	4.574063	0.767526	294159
3	1962-01-05	4.574063	4.581882	4.378590	4.456780	0.747846	436442
4	1962-01-08	4.456780	4.456780	4.316039	4.448961	0.746534	495593
...
15568	2023-11-06	109.290001	111.879997	108.540001	111.779999	111.779999	4893700
15569	2023-11-07	111.360001	112.930000	110.860001	111.800003	111.800003	4179900
15570	2023-11-08	112.199997	114.050003	111.989998	113.849998	113.849998	4840400
15571	2023-11-09	114.349998	114.769997	112.930000	113.089996	113.089996	4618200
15572	2023-11-10	113.730003	115.559998	113.190002	115.269997	115.269997	3497700

15573 rows × 7 columns

```
In [4]: data.describe()
```

Out[4]:

	Open	High	Low	Close	Adj Close	Volume
count	15573.000000	15573.000000	15573.000000	15573.000000	15573.000000	1.557300e+06
mean	76.091649	76.901170	75.238063	76.082676	50.509459	4.112364e+05
std	81.126291	82.013412	80.198241	81.130465	55.298005	5.477311e+05
min	3.471597	3.526329	3.393408	3.471597	0.590826	0.000000e+00
25%	7.037020	7.083934	6.990107	7.037020	1.754207	8.632921e+04
50%	39.344765	39.843872	38.969456	39.344765	19.529991	2.430000e+05
75%	139.013992	140.214981	137.512756	138.833847	96.296997	5.067400e+05
max	357.668274	363.297913	356.917664	360.295441	198.539841	1.253811e+06

In [5]: `data.shape` *#Dimensions of data*

Out[5]: (15573, 7)

In [6]: `missing_values = data.isnull().sum()`
`print("Missing Values:\n", missing_values)` *#There are no missing values in the data*

Missing Values:

```

Date          0
Open          0
High          0
Low           0
Close         0
Adj Close     0
Volume        0
dtype: int64

```

In [7]: `data.info()`

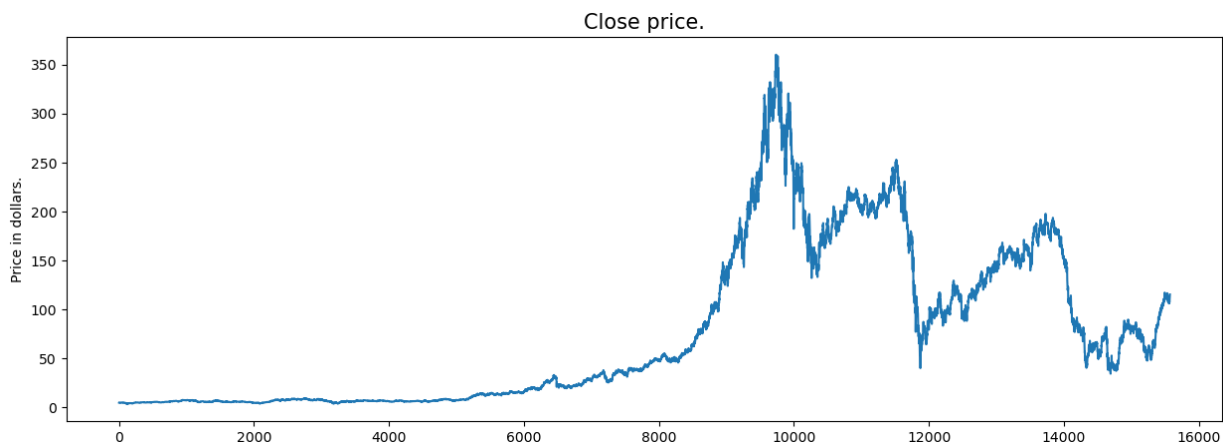
```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 15573 entries, 0 to 15572
Data columns (total 7 columns):
 #   Column        Non-Null Count  Dtype
---  -
 0   Date          15573 non-null  object
 1   Open          15573 non-null  float64
 2   High          15573 non-null  float64
 3   Low           15573 non-null  float64
 4   Close         15573 non-null  float64
 5   Adj Close     15573 non-null  float64
 6   Volume        15573 non-null  int64
dtypes: float64(5), int64(1), object(1)
memory usage: 851.8+ KB

```

EDA (Exploratory Data Analysis)

```
In [9]: plt.figure(figsize=(15,5))
plt.plot(data['Close'])
plt.title('Close price.', fontsize=15)
plt.ylabel('Price in dollars.')
plt.show()
```



```
In [10]: data.head()
```

```
Out[10]:
```

	Date	Open	High	Low	Close	Adj Close	Volume
0	1962-01-02	4.691347	4.769536	4.644433	4.675709	0.784582	345317
1	1962-01-03	4.652252	4.652252	4.613158	4.628796	0.776710	236606
2	1962-01-04	4.628796	4.667890	4.534969	4.574063	0.767526	294159
3	1962-01-05	4.574063	4.581882	4.378590	4.456780	0.747846	436442
4	1962-01-08	4.456780	4.456780	4.316039	4.448961	0.746534	495593

```
In [11]: import seaborn as sb
# plotting distplot
#distplot represents the univariate distribution of data i.e. data distri

features = ['Open', 'High', 'Low', 'Close', 'Volume']
plt.subplots(figsize=(20,10))
for i, col in enumerate(features):
    plt.subplot(2,3,i+1)
    sb.distplot(data[col])
plt.show()
```

```
/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/3451278
235.py:8: MatplotlibDeprecationWarning: Auto-removal of overlapping axes
is deprecated since 3.6 and will be removed two minor releases later; ex
plicitly call ax.remove() as needed.
```

```
plt.subplot(2,3,i+1)
/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/3451278
235.py:9: UserWarning:
```

```
`distplot` is a deprecated function and will be removed in seaborn v0.1
4.0.
```

Please adapt your code to use either ``displot`` (a figure-level function with similar flexibility) or ``histplot`` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see <https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751>

```
sb.distplot(data[col])  
/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/3451278  
235.py:9: UserWarning:
```

``distplot`` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either ``displot`` (a figure-level function with similar flexibility) or ``histplot`` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see <https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751>

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/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/3451278  
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/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/3451278  
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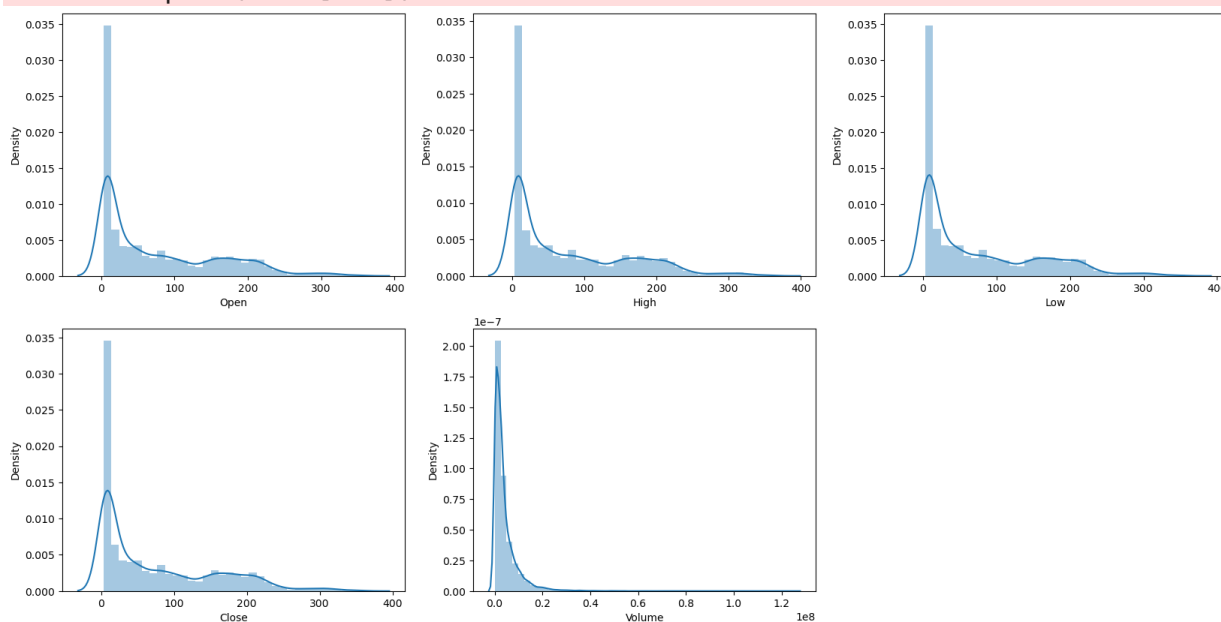
```
sb.distplot(data[col])
/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/3451278
235.py:9: UserWarning:
```

``distplot`` is a deprecated function and will be removed in seaborn v0.14.0.

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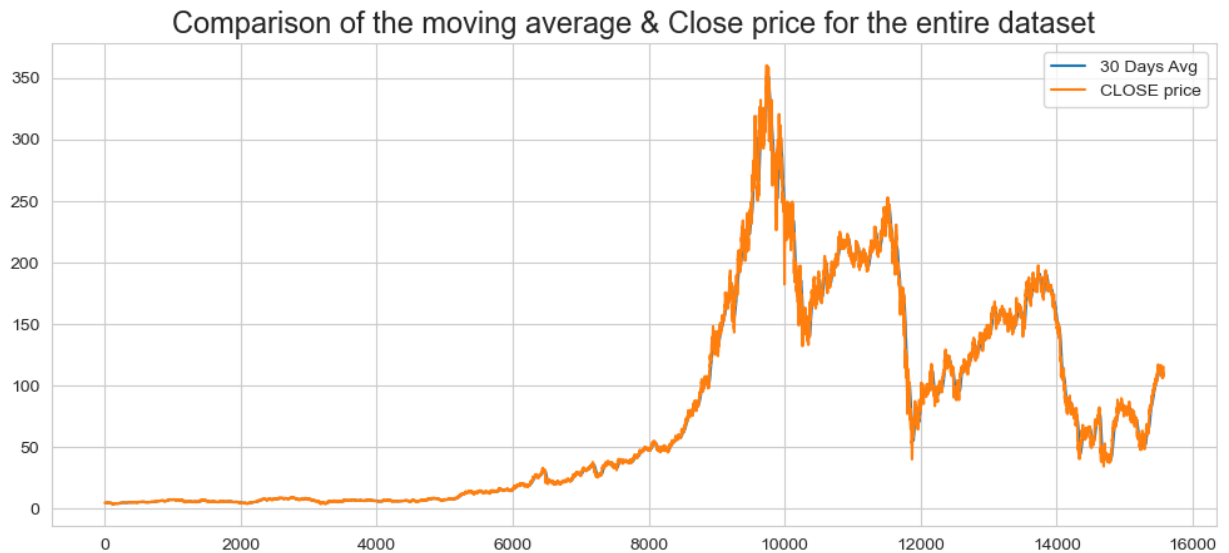
```
sb.distplot(data[col])
```



```
In [13]: df=data
```

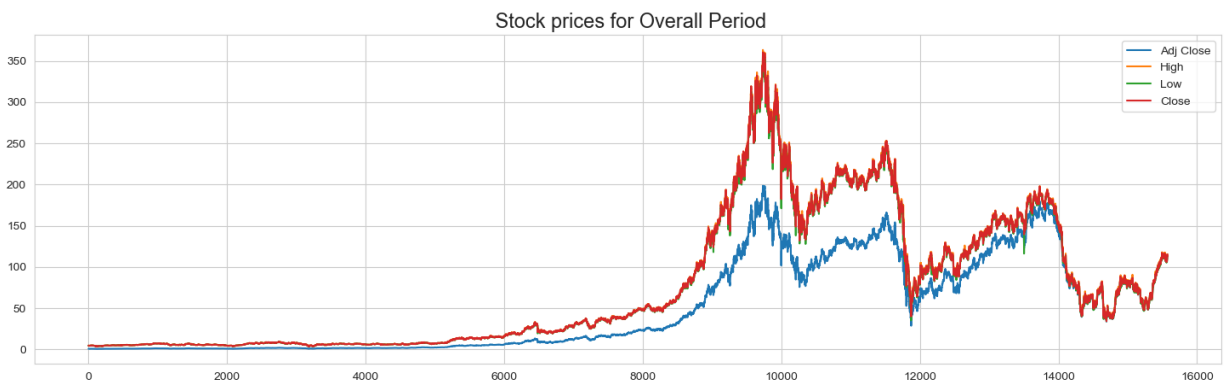
We can see that the data have only one peak which means data is varied only in one region

```
In [14]: sns.set_style('whitegrid')
f = plt.figure(figsize=(12, 5))
df['Close'].rolling(window=30).mean().plot(label='30 Days Avg')
df['Close'].plot(label='CLOSE price')
plt.title("Comparison of the moving average & Close price for the entire")
plt.legend()
plt.show()
```



```
In [15]: df[['Adj Close', 'High', 'Low', 'Close']].plot(figsize=(18,5))  
plt.title(" Stock prices for Overall Period", fontsize=17)
```

```
Out[15]: Text(0.5, 1.0, ' Stock prices for Overall Period')
```



Statistical Models

```
In [16]: import pandas as pd
from statsmodels.graphics.tsaplots import plot_acf, plot_pacf
from statsmodels.tsa.stattools import adfuller
from pandas import datetime
from statsmodels.graphics import tsaplots
import matplotlib.pyplot as plt

from tables.description import Col

from statsmodels.tsa.arima_model import ARIMA
from pmdarima.arima import auto_arima
from sklearn.metrics import mean_absolute_percentage_error
from sklearn.metrics import mean_squared_error
import numpy as np
np.seterr(divide='ignore', invalid='ignore')

import statsmodels.api as sm
import pandas as pd
import numpy as np
from fbprophet import Prophet
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.metrics import mean_squared_error, mean_absolute_percentage_
import holidays
import random
import optuna
from sklearn.metrics import mean_absolute_error
import pandas as pd
from statsmodels.graphics.tsaplots import plot_acf, plot_pacf
from statsmodels.tsa.stattools import adfuller
from pandas import datetime
from statsmodels.graphics import tsaplots
import matplotlib.pyplot as plt
import warnings
import itertools
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
import statsmodels.api as sm
import matplotlib
import pmdarima as pm

import holidays
import random
import itertools
```

```

/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/2627636
977.py:4: FutureWarning: The pandas.datetime class is deprecated and wil
l be removed from pandas in a future version. Import from datetime modul
e instead.
    from pandas import datetime
/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/2627636
977.py:31: FutureWarning: The pandas.datetime class is deprecated and wi
ll be removed from pandas in a future version. Import from datetime modu
le instead.
    from pandas import datetime

```

In [17]: **class** ANOM_DET:

```

    ...
    This class contains
    1. init
    2. class PreProcessing
    3. class Arima
    4. class SARIMA
    5. class prophet1 – yet to be added
    5. class anomaly_detect
    6. smape()
    7. mae()
    8. getErrors() – problem with this
    9. make_data()
    10. choose_model()
    11. driver() – MAIN, THIS IS WHAT RUNS THE ENTIRE PROGRAM
    ...

    # constructor method
    def __init__(self, filename, col):
        # object attributes
        self.col = col
        self.preprocess = self.PreProcessing(filename, col)
        self.model1 = self.Arima()
        self.model2 = self.SARIMA()
        self.model3 = self.prophet1()
        self.ad = self.anomaly_detect()

        self.prophet_df = None # To store the dataset for prophet

    # CLASS PREPROCESS
    class PreProcessing :
        def __init__(self, file, col):
            self.file=file
            self.col = col
            self.ts = None
        def extractColumn(self):
            series = pd.read_csv(self.file).dropna()
            ts = series[['Date',self.col]]
            ts['Date'] = pd.to_datetime(ts['Date'])
            ts = ts.set_index('Date')
            self.ts=ts

```



```

def sample(self,rate):
    self.ts = self.ts.resample(rate).mean()
def prophet_preprocessing(self,col):
    self.col=col
    series = pd.read_csv(self.file ).dropna()
    ts = series[['Date',col]]
    ts['Date'] = pd.to_datetime(ts['Date'])
    ts.rename(columns={'Date':'ds','Close':'y'},inplace=True)
    self.prophet_df = ts
def testStationarity(self,data=None, significant=0.05, series=False):
    if data==None:
        data=self.ts
    if series:
        adf_test = adfuller(data, autolag='AIC')
    else:
        adf_test = adfuller(data, autolag='AIC')
    p_value = adf_test[1]
    if p_value <= significant:
        print(p_value)
        test_result = "Stationary"
    else:
        print(p_value)
        test_result = "Non-Stationary"
    return test_result
def differentiate(self,data=None,order=1):
    if data==None:
        data=self.ts
    differenced_data = data.diff(order)
    differenced_data.fillna(differenced_data.mean(), inplace=True)
    return differenced_data
def trainTestSplit(self,splitRatio):
    self.train_data, self.test_data = self.ts[0:int(len(self.ts)*splitRatio):]
# END OF CLASS PREPROCESS

# CLASS ARIMA
class Arima () :

    def tuneHyperparameters(self,data):
        model_autoARIMA = auto_arima(data, start_p=0, start_q=0,
                                     test='adf', # use adftest to find optimal
                                     max_p=6, max_q=6,
                                     m=1,
                                     d=None,
                                     seasonal=True,
                                     start_P=0,
                                     D=0,
                                     trace=True,
                                     error_action='ignore',
                                     suppress_warnings=True,
                                     stepwise=True)
        print(model_autoARIMA.summary())

```

```

        return model_autoARIMA.order

    def generatePredictions(self,col,train_data,test_data,order):
        self.train_ar = train_data[col].values
        self.test_ar = test_data[col].values
        #model = ARIMA(history, order)
        model = sm.tsa.arima.ARIMA(self.train_ar,exog=None,order=order)
        self.model_fit = model.fit()

        start = len(self.train_ar)
        end = len(self.train_ar) + len(self.test_ar) - 1
        self.predictions = self.model_fit.predict(start, end,typ = 'level')
# END OF CLASS ARIMA

# CLASS SARIMA
class SARIMA():
    def tuneHyperparameters(self,data):
        p = range(0, 2)
        d = range(1, 2)
        q = range(0,3)
        pdq = list(itertools.product(p, d, q))
        seasonal_pdq = [(x[0], x[1], x[2], 5) for x in list(itertools.p
        print('Examples of parameter combinations for Seasonal ARIMA...
        for param in pdq:
            for param_seasonal in seasonal_pdq:
                #try:
                    mod = sm.tsa.statespace.SARIMAX(data,
                                                    order=param,
                                                    seasonal_order=para
                                                    enforce_stationarit
                                                    enforce_invertibili

                    results = mod.fit()
                    print('SARIMA{}x{} - AIC:{}'.format(param, param_se
                    break
                break
            #print(mod.order,mod.seasonal_order)
            return mod.order,mod.seasonal_order

    def generatePredictions(self,col,train_data,test_data , sarima_orde
        self.train_ar = train_data[col].values
        self.test_ar = test_data[col].values
        #model = SARIMA(history, order)
        print(type(sarima_order))
        print(len(sarima_order))
        model = sm.tsa.statespace.SARIMAX(self.train_ar,exog=None, orde
        self.model_fit = model.fit()

        start = len(self.train_ar)
        end = len(self.train_ar) + len(self.test_ar) - 1
        self.predictions = self.model_fit.predict(start, end,typ = 'lev
# END OF CLASS SARIMA
class prophet1 ():

```

```

def __init__(self): #def __init__(self,file, col)
    self.train_df=pd.DataFrame()
    self.test_size=0
    self.val_df=pd.DataFrame()
    self.test_df=pd.DataFrame()
    #self.file=file
    #self.col=col

def train_validate(self,data):
    df=data
    self.test_size = int(df.shape[0] / 10)
    self.train_df = df.iloc[:-self.test_size, :]
    self.val_df = df.iloc[-self.test_size:int(-self.test_size/2), :]
    self.test_df = df.iloc[int(-self.test_size/2):, :]
    return self.test_df,self.val_df,self.train_df,self.test_size

def objective(self,trial):
    params = {
        'changepoint_prior_scale': trial.suggest_float('changepoint_prior_scale', 0.01, 0.1),
        'changepoint_range': trial.suggest_float('changepoint_range', 0.5, 0.95),
        'seasonality_prior_scale': trial.suggest_float('seasonality_prior_scale', 0.01, 0.1),
        'holidays_prior_scale': trial.suggest_float('holidays_prior_scale', 0.01, 0.1),
        'seasonality_mode': trial.suggest_categorical('seasonality_mode', ['multiplicative', 'additive']),
        'weekly_seasonality': trial.suggest_int('weekly_seasonality', 1, 52),
        'yearly_seasonality': trial.suggest_int('yearly_seasonality', 1, 365)
    }

    m = Prophet(**params)
    m.add_country_holidays(country_name='US')
    m.fit(self.train_df)
    preds = m.predict(self.val_df[['ds']])
    mae_score = mean_absolute_error(self.val_df['y'], preds['yhat'])
    return mae_score

def regression_report(self,y_true, y_pred):
    mae_score = mean_absolute_error(y_true, y_pred)
    mse_score = mean_squared_error(y_true, y_pred)
    mape=mean_absolute_percentage_error(y_true, y_pred)

    report_dict = {
        'mae_score': mae_score,
        'mse_score': mse_score,
        'MAPE': mape
    }
    return report_dict

def prophet_requirments(self):
    study = optuna.create_study(direction='minimize')
    study.optimize(self.objective, n_trials=100) #ewadifhiasuhvjd
    params=study.best_params
    m = Prophet(**params)

```

```

        m.add_country_holidays(country_name='US')

        concat_train_df = pd.concat([self.train_df, self.val_df])
        m.fit(concat_train_df)
        preds = m.predict(self.test_df[['ds']])
        result = self.regression_report(self.test_df['y'], preds['yhat'])

        future = m.make_future_dataframe(periods=365)

        forecast = m.predict(future)

        future = m.make_future_dataframe(periods=365)

        forecast = m.predict(future)

        return result, forecast[['ds', 'yhat', 'yhat_lower', 'yhat_upper']]

# CLASS ANOMALY DETECTION
class anomaly_detect:
    def __init__(self):
        self.z = 3

    def find_anomalies(self, squared_errors):
        threshold = np.mean(squared_errors) + (self.z * np.std(squared_errors))
        predictions = (squared_errors >= threshold).astype(int)
        return predictions, threshold

    def get_anoms(self, model_fit, df):
        squared_errors = model_fit.resid ** 2
        print('length of squared_errors', len(squared_errors))
        predictions, threshold = self.find_anomalies(squared_errors)

        print('length of preds', len(predictions))

        #df = pd.DataFrame(data={"date": list(ts['Close'].index), "Close": df['Close']})
        df.drop(df.tail(df.shape[0] - len(predictions)).index, inplace = True)
        df['preds'] = list(predictions)

        anom = df['Close'].loc[df['preds'].astype(bool)]
        ax = df['Close'].plot(figsize = (15, 6))
        ax.set_xlabel('Date')
        ax.set_title('Anomalies detected for daily stock prices')
        ax.set_ylabel('Close Price')
        anom.plot(marker='o', ls='', ax=ax, color='r')

    def get_anoms_prophet(self, df1, model_fit):

        performance = pd.merge(df1, model_fit, on='ds')

```

```

performance['anomaly'] = performance.apply(lambda rows: 1 if ((ro
performance['anomaly'].value_counts()
sns.scatterplot(x='ds', y='y', data=performance, hue='anomaly')
sns.lineplot(x='ds', y='yhat', data=performance, color='black')

def make_data(self, samplingRate, split):
    """
    THIS FUNCTION MAKES DATA FOR THE ARIMA AND SARIMA MODELS MAINLY
    """
    #importing data and extracting required column
    self.preprocess.extractColumn()

    #sampling to given period
    if samplingRate!='D':
        self.preprocess.sample(samplingRate)

    #stationarity
    r = self.preprocess.testStationarity()
    if r=="Non-Stationary":
        i=0
        while (i<2 and r=="Non-Stationary"):
            self.preprocess.ts=ata=self.preprocess.differentiate()
            r = self.preprocess.testStationarity()
            i+=1
    #train and test splitting
    self.preprocess.trainTestSplit(split)

    #prophet
    self.preprocess.prophet_preprocessing(self.col)

def choose_model(self):
    # TRAINING MODEL 1 = ARIMA
    print(" -----TRAINING MODEL 1 = ARIMA-----")
    orderArima = self.model1.tuneHyperparameters(self.preprocess.ts
    self.model1.generatePredictions(self.col, self.preprocess.train
    print('\n\nmodel test ar etc', self.model1.test_ar, self.model1
    mod1Error1 = mean_squared_error(self.model1.test_ar, self.model
    mod1Error2 = mean_absolute_percentage_error(self.model1.test_ar
    mod1Error3 = mean_absolute_error(self.model1.test_ar, self.mode
    mod1Errors = [mod1Error1, mod1Error2, mod1Error3]

    # TRAINING MODEL 2 = SARIMA
    print(" -----TRAINING MODEL 2 = SRIMA-----")
    sarima_order,seasonality_order = self.model2.tuneHyperparameter
    self.model2.generatePredictions(self.col, self.preprocess.train
    mod2Error1 = mean_squared_error(self.model2.test_ar, self.model
    mod2Error2 = mean_absolute_percentage_error(self.model2.test_ar
    mod2Error3 = mean_absolute_error(self.model2.test_ar, self.mode
    mod2Errors = [mod2Error1, mod2Error2, mod2Error3]

```

```

# TRAINING MODEL 3 = PROPHET
print(" -----TRAINING MODEL 3 = PROPHET-----")
test_df, val_df, train_df, test_size=self.model3.train_validate(se
results, forecasted_output=self.model3.prophet_requirements()
#print(results)
#print(forecasted_output[['ds', 'yhat', 'yhat_lower', 'yhat_upper'])
mod3Error1 = results.get('mse_score')
mod3Error2 = results.get('MAPE')
mod3Error3 = results.get('mae_score')
#print(forecasted_output.head())
#print(forecasted_output.tail())

print('\n=== MODEL 1 ===')
print('Testing Mean Squared Error: %.3f' % mod1Errors[0])
print('Mean absolute percentage error: %.3f' % mod1Errors[1])
print('Testing Mean Absolute Error: %.3f' % mod1Errors[2])
print('=====')
print('\n=== MODEL 2 ===')
print('Testing Mean Squared Error: %.3f' % mod2Errors[0])
print('Mean absolute percentage error: %.3f' % mod2Errors[1])
print('Testing Mean Absolute Error: %.3f' % mod2Errors[2])
print('=====')
print('\n=== MODEL 3 ===')
print('Testing Mean Squared Error: %.3f' % mod3Error1)
print('Mean absolute percentage error: %.3f' % mod3Error2)
print('Testing Mean Absolute Error: %.3f' % mod3Error3)
print('=====')

if mod1Errors[2] < mod2Errors[2] and mod1Errors[2] < mod3Error3:
    print('\n\n\n-----USING ARIMA-----')
    return [1, self.model1.model_fit]

elif mod2Errors[2] < mod1Errors[2] and mod2Errors[2] < mod3Error3:
    print('\n\n\n-----USING SARIMA-----')
    return [2, self.model2.model_fit]

elif mod3Error3 < mod1Errors[2] and mod3Error3 < mod2Errors[2]:
    print('\n\n\n-----USING PROPHET-----')
    return [3, forecasted_output]

def driver(self, samplingRate, split):
    # STATISTICAL MODELS
    self.make_data(samplingRate, split)
    df1=self.preprocess.prophet_df
    df = pd.DataFrame(data={"date": list(self.preprocess.ts['Close']).

```

```

# print(df1, "Print df1")

modelType, modelFit = self.choose_model()

# print(modelFit)
# self.ad.get_anoms(modelFit, df)
# ML MODELS
# Call the class rel

if modelType == 1 or modelType == 2:      # If the model type is a
    self.ad.get_anoms(modelFit, df)        # call the function for
elif modelType == 3:
    self.ad.get_anoms_prophet(df1, modelFit) # If the model type is p
    pass                                   # call the function for

```

```

In [18]: obj = ANOM_DET("/Users/inakolluvishnusai/Downloads/GE.csv", 'Close')
obj.driver('D', 0.8)

```

```

/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/1444770
329.py:40: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

```

```

See the caveats in the documentation: https://pandas.pydata.org/pandas-d
ocs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
    ts['Date'] = pd.to_datetime(ts['Date'])
0.6046823903033339
0.0

```

-----TRAINING MODEL 1 = ARIMA-----

```

/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/1444770
329.py:49: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

```

```

See the caveats in the documentation: https://pandas.pydata.org/pandas-d
ocs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
    ts['Date'] = pd.to_datetime(ts['Date'])

```

```

/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/1444770
329.py:50: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

```

```

See the caveats in the documentation: https://pandas.pydata.org/pandas-d
ocs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
    ts.rename(columns={'Date': 'ds', 'Close': 'y'}, inplace=True)

```

Performing stepwise search to minimize aic

```

ARIMA(0,0,0)(0,0,0)[0] intercept      : AIC=65871.890, Time=0.16 sec
ARIMA(1,0,0)(0,0,0)[0] intercept      : AIC=65866.388, Time=0.35 sec
ARIMA(0,0,1)(0,0,0)[0] intercept      : AIC=65865.507, Time=0.45 sec
ARIMA(0,0,0)(0,0,0)[0]                 : AIC=65870.085, Time=0.09 sec
ARIMA(1,0,1)(0,0,0)[0] intercept      : AIC=65836.850, Time=1.70 sec
ARIMA(2,0,1)(0,0,0)[0] intercept      : AIC=65825.420, Time=0.79 sec

```

```

ARIMA(2,0,0)(0,0,0)[0] intercept : AIC=65824.577, Time=0.60 sec
ARIMA(3,0,0)(0,0,0)[0] intercept : AIC=65825.495, Time=0.71 sec
ARIMA(3,0,1)(0,0,0)[0] intercept : AIC=65827.366, Time=3.24 sec
ARIMA(2,0,0)(0,0,0)[0]          : AIC=65822.803, Time=0.26 sec
ARIMA(1,0,0)(0,0,0)[0]          : AIC=65864.591, Time=0.17 sec
ARIMA(3,0,0)(0,0,0)[0]          : AIC=65823.718, Time=0.33 sec
ARIMA(2,0,1)(0,0,0)[0]          : AIC=65823.644, Time=0.31 sec
ARIMA(1,0,1)(0,0,0)[0]          : AIC=65835.105, Time=0.55 sec
ARIMA(3,0,1)(0,0,0)[0]          : AIC=65825.589, Time=0.91 sec

```

Best model: ARIMA(2,0,0)(0,0,0)[0]

Total fit time: 10.661 seconds

SARIMAX Results

```

=====
=====
Dep. Variable:          y    No. Observations:
15573
Model:                SARIMAX(2, 0, 0)    Log Likelihood        -329
08.402
Date:                Mon, 27 Nov 2023    AIC                    658
22.803
Time:                19:16:20    BIC                    658
45.763
Sample:              0    HQIC                    658
30.407

```

- 15573

Covariance Type: opg

```

=====
=====
              coef      std err          z      P>|z|      [0.025
0.975]
-----
ar.L1         -0.0231      0.003     -8.343      0.000     -0.029
-0.018
ar.L2         -0.0530      0.003    -18.645      0.000     -0.059
-0.047
sigma2         4.0087      0.012    324.720      0.000      3.985
4.033
=====
=====

```

```

Ljung-Box (L1) (Q):          0.00    Jarque-Bera (JB):
411661.70
Prob(Q):                    0.96    Prob(JB):
0.00
Heteroskedasticity (H):      627.34    Skew:
-0.27
Prob(H) (two-sided):         0.00    Kurtosis:
28.18
=====
=====

```

Warnings:

[1] Covariance matrix calculated using the outer product of gradients (complex-step).

```
model test ar etc [ 0.960785  0.720596  1.801476 ...  2.049995 -0.760002
2.180001] [ 0.10434224 -0.10813788  0.00604813 ...  0.00843145  0.008431
45
```

```
0.00843145]
```

```
-----TRAINING MODEL 2 = SRIMA-----
```

Examples of parameter combinations for Seasonal ARIMA...

RUNNING THE L-BFGS-B CODE

```
* * *
```

Machine precision = 2.220D-16

```
N =          1      M =          10
```

At X0 0 variables are exactly at the bounds

```
At iterate    0      f=  2.84156D+00      |proj g|=  1.07996D-04
```

```
* * *
```

Tit = total number of iterations

Tnf = total number of function evaluations

Tnint = total number of segments explored during Cauchy searches

Skip = number of BFGS updates skipped

Nact = number of active bounds at final generalized Cauchy point

Projg = norm of the final projected gradient

F = final function value

```
* * *
```

N	Tit	Tnf	Tnint	Skip	Nact	Projg	F
1	1	3	1	0	0	9.719D-06	2.842D+00
F =		2.8415583811713589					

CONVERGENCE: NORM_OF_PROJECTED_GRADIENT_<=_PGTOL

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/stat
smodels/tsa/base/tsa_model.py:471: ValueWarning: A date index has been p
rovided, but it has no associated frequency information and so will be i
gnored when e.g. forecasting.
```

```
self._init_dates(dates, freq)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/stat
smodels/tsa/base/tsa_model.py:471: ValueWarning: A date index has been p
rovided, but it has no associated frequency information and so will be i
gnored when e.g. forecasting.
```

```
self._init_dates(dates, freq)
```

```
This problem is unconstrained.
```

```
This problem is unconstrained.
```

```
[I 2023-11-27 19:16:21,418] A new study created in memory with name: no-
name-df7a70cc-5e61-4677-b81a-872dcda47830
```

SARIMA(0, 1, 0)x(0, 1, 0, 5) - AIC:88505.17733996315

<class 'tuple'>

3

RUNNING THE L-BFGS-B CODE

* * *

Machine precision = 2.220D-16

N = 1 M = 10

At X0 0 variables are exactly at the bounds

At iterate 0 f= 2.87779D+00 |proj g|= 1.11354D-04

* * *

Tit = total number of iterations

Tnf = total number of function evaluations

Tnint = total number of segments explored during Cauchy searches

Skip = number of BFGS updates skipped

Nact = number of active bounds at final generalized Cauchy point

Projg = norm of the final projected gradient

F = final function value

* * *

N	Tit	Tnf	Tnint	Skip	Nact	Projg	F
1	1	3	1	0	0	8.752D-06	2.878D+00
F =	2.8777868942673881						

CONVERGENCE: NORM_OF_PROJECTED_GRADIENT_<= _PGTOL

-----TRAINING MODEL 3 = PROPHET-----

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	26752.3	0.00212423	4032.11	1	
1	112					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	199	29308	0.00507505	2633.99	1	
1	220					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	299	29960.3	0.17387	2929.25	1	
1	329					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	399	30643.6	0.00348014	3349.18	1	
1	436					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31018.4	0.014676	5139.55	1	
1	542					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31397.8	0.0124647	1150.8	1	
1	648					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	32399.3	0.117703	8308.7	1	
1	754					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	33249.5	0.0234283	8746.83	1	
1	860					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	33809.5	0.00285587	2105.53	0.4376	0.88
72	967					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	33960.2	0.00725015	491.395	1	
1	1079					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	34099.2	0.00641604	1511.51	1	
1	1184					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	34145.3	0.00220229	1141.55	1	
1	1288					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	34232.9	0.00838735	2263.82	1	
1	1397					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	34430.8	0.00870726	2959.15	1	
1	1504					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	34513.5	0.00392546	2119.88	0.1851	
1	1611					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	34530.7	0.00296238	1259.34	1	
1	1716					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1699	34617.4	0.0100054	593.115	1	
1	1824					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	34773.7	0.000771673	1018.57	1	
1	1927					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	34793.5	0.0138135	3808.18	1	
1	2034					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	34802.7	0.00302921	347.957	1	
1	2140					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	34814.8	0.00109178	322.848	1	
1	2246					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	34831.4	0.000195971	154.229	1	
1	2352					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	34849.6	0.0185585	1085.15	1	
1	2462					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	34914	0.00684595	718.573	1	
1	2571					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	34925.7	0.00701212	2053.59	1	
1	2680					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	34931.8	0.000170987	244.473	0.4574	
1	2785					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	34935.9	3.23408e-05	143.045	0.5424	0.54
24	2891					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	34947.8	0.00260053	2594.79	0.5585	0.55
85	2995					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	34984.9	0.009448	713.407	1	
1	3101					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	34993.1	0.0233514	1159.63	1	

1	3208						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3099	35009.3	0.00189454	858.38	0.4054		
1	3316						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3199	35014.2	0.00501157	1316.15	0.6705	0.67	
05	3422						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3299	35016.8	0.00793342	743.003	1		
1	3526						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3399	35020.8	0.00198936	616.577	1		
1	3630						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3499	35022.8	0.00124967	293.362	1		
1	3737						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3599	35023.3	0.000523966	117.546	1		
1	3841						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3699	35023.6	0.000418255	160.489	1		
1	3956						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3799	35024.2	0.000141775	392.954	0.04437		
1	4069						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3899	35024.7	0.00110591	68.0876	1		
1	4177						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3999	35026.3	0.000128011	136.536	1		
1	4283						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4099	35027	7.45939e-05	55.4	0.6666	0.66	
66	4388						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4199	35027.7	0.0108063	426.596	1		
1	4493						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4299	35033.1	7.77885e-05	141.336	0.8687	0.86	
87	4597						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	35033.6	3.08536e-05	57.638	1	
1	4706					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4483	35033.8	5.07907e-05	41.1086	0.918	0.9
18	4796					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:16:46,582] Trial 0 finished with value: 99.3901273195604 and parameters: {'changepoint_prior_scale': 4.789972421302484, 'changepoint_range': 0.8276730437097454, 'seasonality_prior_scale': 2.5585785285893503, 'holidays_prior_scale': 9.668582422801467, 'seasonality_mode': 'additive', 'weekly_seasonality': 10, 'yearly_seasonality': 11}. Best is trial 0 with value: 99.3901273195604.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28664.5	0.0133167	20022.5	0.1908	0.19
08	124					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29648.3	0.0302003	4411.64	1	
1	240					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30221.9	0.0228323	3567.12	1	
1	358					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30794.2	0.0139667	7987.77	1	
1	486					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31092.1	0.000579486	1736.45	1	

1	596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31400.9	0.0370829	23134.4	1	
1	717					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31729.1	0.0989666	6810.8	0.4318	
1	837					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31872.9	0.023395	4647.91	1	
1	968					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31976.8	0.00194307	4286.55	0.06639	
1	1099					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32029.3	0.00177549	3757.88	0.4052	0.040
52	1219					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32047	0.0102365	1207.47	1	
1	1338					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32090.1	0.00296582	531.061	1	
1	1460					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32118.5	0.00065497	705.477	0.3219	
1	1581					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32130	0.00214161	518.154	1.581	0.15
81	1710					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32138.9	0.00593255	674.625	1	
1	1823					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32146.1	0.00368481	2390.11	1	
1	1936					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32156.8	0.0234684	412.45	1	
1	2052					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32170.9	0.00133543	447.413	1	
1	2173					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32174.8	0.000360619	219.707	1	
1	2284					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32176.7	0.00567969	272.374	0.3798	
1	2414					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32177.9	0.000199778	258.089	1	
1	2529					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32178.6	0.000498225	269.171	1	
1	2644					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2243	32178.7	2.72486e-05	39.3029	1	
1	2702					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:16:59,055] Trial 1 finished with value: 77.80025905513563 and parameters: {'changepoint_prior_scale': 0.6070600130977968, 'changepoint_range': 0.8085477322094, 'seasonality_prior_scale': 9.21204445972965, 'holidays_prior_scale': 4.575579563459375, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 7}. Best is trial 1 with value: 77.80025905513563.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	30368.6	0.0243997	3202.76	1	
1	123					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	31824.4	0.0511171	10168.8	0.9235	0.92

35	240					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	34630.8	0.100391	7621.87	1	
1	363					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	36093.2	0.00273064	4890.7	1	
1	486					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	36861.3	0.0235541	4586.02	0.293	0.85
43	603					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	37437.9	0.0427088	9872.69	1	
1	728					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	37700.3	0.000851011	1821.97	1	
1	843					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	37935.9	0.0159587	17762.7	0.08197	
1	963					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	39137.2	0.0563337	8961.25	1	
1	1080					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	39495.6	0.00327753	3223.17	1	
1	1194					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	39652.9	0.00715283	3178.47	1	
1	1321					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	39853.3	0.0102326	2582.68	0.8944	0.089
44	1441					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	39941.7	0.00172778	870.643	0.6841	0.68
41	1576					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	40015.4	0.00231878	2950.15	0.3141	0.31
41	1699					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	40061.7	0.0106451	1841.84	1	
1	1820					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	40083	0.000494582	4227.68	1	
1	1935					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1699	40103.6	0.00916	2752.86	1	
1	2048					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1799	40138.6	0.019063	2903.65	1	
1	2168					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1899	40151	0.00514929	1211.33	1	
1	2286					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1999	40156.6	0.00113548	586.725	1	
1	2400					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2099	40163.3	0.00598487	1031.74	1	
1	2526					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2199	40166.6	0.00026484	307.373	1	
1	2655					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2299	40169	0.000450407	655.086	0.4275	0.42
75	2782					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2399	40170.6	0.000320169	312.37	1	
1	2903					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2499	40172.6	0.00131917	630.076	1	
1	3021					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2599	40173.1	0.000127081	222.406	1	
1	3142					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2654	40173.3	8.35877e-05	66.3617	1	
1	3209					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:17:16,650] Trial 2 finished with value: 143.49907685639516 and parameters: {'changepoint_prior_scale': 1.047996195870208, 'changepoint_range': 0.8772883882341227, 'seasonality_prior_scale': 8.672427828697366, 'holidays_prior_scale': 2.8055360184433153, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 5, 'yearly_seasonality': 18}. Best is trial 1 with value: 77.80025905513563.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	29759.3	0.0071523	2838.82	1	
1	120					
a0	# evals	Notes			alpha	alph
	199	31257.2	0.0221542	2501.24	1	
1	230					
a0	# evals	Notes			alpha	alph
	299	32604	0.036503	5679.71	1	
1	336					
a0	# evals	Notes			alpha	alph
	399	33606.8	0.0871605	13646.5	1	
1	448					
a0	# evals	Notes			alpha	alph
	499	34326.9	0.103658	9140.38	1	
1	557					
a0	# evals	Notes			alpha	alph
	599	34776.2	0.00156193	1966	1	
1	662					
a0	# evals	Notes			alpha	alph
	699	35198.6	0.0156258	8585.71	1	
1	767					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	36895.8	0.00103352	3772.93	1	
1	875					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	37307	0.0297081	5606.1	1	
1	984					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	37596.4	0.00180812	7829.04	0.3144	0.31
44	1091					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	37674.6	0.00673077	4353.36	1	
1	1196					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	38190.4	0.012067	5389.99	0.2952	
1	1303					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	38441.5	0.000379991	744.821	1	
1	1410					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	38490.1	0.00446176	1303.85	1	
1	1514					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	38528.6	0.00879557	3977.62	1	
1	1624					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	38543.7	0.000371191	576.334	0.3267	0.32
67	1736					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	38552.8	0.00101218	1320.37	1	
1	1843					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	38565.1	0.000242992	335.153	1	
1	1950					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	38576	0.00086396	969.421	0.7341	0.73
41	2056					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	38605.5	0.000172109	330.07	1	
1	2163					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	38612.9	0.00226629	602.375	1	
1	2269					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	38615.9	0.00325332	496.476	1	
1	2375					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	38622.4	0.000471332	587.548	1	
1	2487					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	38624.7	0.00406538	1278.61	1	
1	2596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	38631.7	0.00018305	328.548	1	
1	2702					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	38635.3	0.00205463	345.356	1	
1	2809					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	38637.7	0.000694112	167.373	1	
1	2917					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	38639.5	0.000159501	126.197	1	
1	3023					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	38641.3	0.00111651	302.188	1	
1	3129					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	38645.9	0.00226376	561.601	1	
1	3238					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	38655.8	0.000182388	543.963	0.7255	0.72
55	3343					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	38656.8	7.60189e-05	117.39	1	
1	3448					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	38657.3	0.000531346	151.862	1	
1	3557					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	38657.9	0.00150384	159.42	0.9027	0.90

```

27      3660
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      38658.8      0.000538836      232.022      1
1      3764
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      38659.1      8.93527e-05      77.5113      1
1      3867
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      38659.4      0.00155078      373.628      1
1      3976
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      38659.8      9.62462e-05      133.786      1
1      4082
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      38660.3      0.00110119      239.022      1
1      4189
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3956      38660.4      2.1317e-05      23.7687      1
1      4251

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:17:35,729] Trial 3 finished with value: 135.33955857590965 and parameters: {'changepoint_prior_scale': 4.507850834365178, 'changepoint_range': 0.8963289428123069, 'seasonality_prior_scale': 8.329852968961127, 'holidays_prior_scale': 5.42710217177455, 'seasonality_mode': 'additive', 'weekly_seasonality': 5, 'yearly_seasonality': 10}. Best is trial 1 with value: 77.80025905513563.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	99	28519	0.0188404	2728.82	1	
1	116					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29652.9	0.0270424	3162.3	1	
1	226					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30113.3	0.0129021	1822.27	1	
1	331					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30532.7	0.320561	3669.3	1	
1	440					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31145.6	0.0994458	21462.3	0.05314	
1	544					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31809.4	0.00694627	854.701	1	
1	653					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31969.9	0.00764286	2811.09	1	
1	764					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	32084	0.0120383	2228.14	1	
1	875					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32630.4	0.0114617	2441.66	1	
1	989					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	33029.9	0.00559651	1081.4	1	
1	1093					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	33141.8	0.0142487	1615.39	1	
1	1201					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	33204.4	0.00359507	1272.06	1	
1	1305					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	33284.5	0.00241364	1200.61	1	
1	1410					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	33306.8	0.0055894	531.507	1	

1	1523					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	33337.6	0.00125615	880.623	0.3806	0.38
06	1631					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	33368	0.00858268	2231.77	1	
1	1736					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	33378.6	0.00319037	434.707	5.111	0.51
11	1845					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	33387.7	0.00384755	706.242	0.4983	0.49
83	1958					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	33456.8	0.00391915	1337.2	1	
1	2063					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	33480.4	0.00231012	903.137	0.1634	
1	2175					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	33484.4	0.00069338	199.647	1	
1	2281					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	33496.2	0.000931824	689.338	0.6286	0.62
86	2393					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	33500.5	0.0028825	507.121	1	
1	2502					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	33504.4	0.00460863	251.128	0.6153	0.61
53	2610					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	33519.5	0.00148033	630.833	1	
1	2717					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	33524.5	0.000297286	53.547	1	
1	2822					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	33527.9	0.000502162	190.787	1	
1	2931					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	33529.2	0.00120558	386.087	0.2456	
1	3038					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	33530	0.000105354	34.6669	1	
1	3148					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	33530.7	0.000383707	123.755	1	
1	3257					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	33533.1	0.000271867	194.882	0.9906	0.99
06	3364					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	33534.1	0.00157844	429.663	1	
1	3473					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	33534.6	0.000171945	48.2625	1	
1	3577					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	33536.1	0.0154954	457.083	0.7207	0.072
07	3691					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	33537.2	0.00582948	501.292	1	
1	3801					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	33537.6	0.00369149	586.97	1	
1	3910					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	33538.9	0.000551736	157.951	1	
1	4024					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	33539.5	0.00148216	177.268	1	
1	4135					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	33539.7	0.000254135	54.537	1	
1	4246					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	33540	0.00108534	213.47	1	
1	4352					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
4099 33542.8 0.000483757 193.352 1
1 4462
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4199 33543.5 0.0025417 78.0059 1
1 4572
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4299 33543.9 0.000312133 31.9893 1
1 4676
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4399 33544 5.49441e-05 46.2398 1
1 4783
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4424 33544.1 9.6326e-06 12.1366 1
1 4808

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:18:00,364] Trial 4 finished with value: 90.57078148529507 and parameters: {'changepoint_prior_scale': 4.813444361810785, 'changepoint_range': 0.8215092736628142, 'seasonality_prior_scale': 1.8017887093116645, 'holidays_prior_scale': 3.2351229659331135, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 15}. Best is trial 1 with value: 77.80025905513563.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
99 29942.3 0.0135075 6706.45 1.444 0.14
44 128
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
199 31374.8 0.0296343 9965.19 0.7299 0.72
99 252

```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	34493.1	0.177301	43474.5	1	
1	373					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	37172.8	0.068845	17689.2	1	
1	495					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	38354.6	0.051885	44400.4	1	
1	610					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	38840.7	0.00198325	9227.64	1	
1	719					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	39161.9	0.000852098	5155.51	1	
1	834					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	39504.2	0.00166728	26837.6	0.3053	0.30
53	958					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	39645.7	0.00104042	14913.8	0.1974	
1	1078					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	39750.8	0.00478082	2059.93	0.2386	
1	1209					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	39807.8	0.0102881	2402.59	1	
1	1331					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	39826.2	0.00201785	1898.83	1	
1	1448					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	39853.7	0.00393787	1598.73	1	
1	1564					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	39868.8	0.00952334	3460.53	1	
1	1685					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	39874.9	0.00570538	4268.27	1	
1	1802					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	1599	39886	0.000501906	1410.72	1	
1	1922					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	39891.6	0.000494003	1220.98	0.6947	0.069
47	2041					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	39898.9	0.00260141	881.414	0.998	0.9
98	2161					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	39901.9	0.000231192	288.619	1	
1	2276					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	39903.5	0.00013528	349.775	1	
1	2394					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	39904.9	0.000215243	428.782	0.5127	0.51
27	2515					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	39906	0.000310287	358.724	1	
1	2638					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	39906.6	0.000438674	304.268	0.8761	0.87
61	2762					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	39907.7	0.000103665	352.53	0.8725	0.87
25	2876					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	39909.2	0.000329381	237.699	1	
1	2996					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	39911.6	0.000533934	89.6808	1	
1	3111					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	39911.8	0.000773348	379.465	1	
1	3225					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	39912.1	0.000869142	127.395	2.441	0.24
41	3353					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

2851      39912.3    0.000105175      73.0566      1
1      3417

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

components = components.append(new_comp)

```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

components = components.append(new_comp)

```

```

[I 2023-11-27 19:18:19,767] Trial 5 finished with value: 141.8340637061662 and parameters: {'changepoint_prior_scale': 3.5859229171875406, 'changepoint_range': 0.8524035245412134, 'seasonality_prior_scale': 4.80952146973699, 'holidays_prior_scale': 8.620500951440608, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 9, 'yearly_seasonality': 14}. Best is trial 1 with value: 77.80025905513563.

```

```

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

components = components.append(new_comp)

```

```

Initial log joint probability = -188.93

```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28164.1	0.0111562	1976.15	1	
1	112					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	28758.1	0.060911	16947.2	0.4433	
1	219					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29514.3	0.00115613	1069.71	1	
1	329					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29744.1	0.103765	8470.32	1	
1	438					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30281.6	0.253114	7392.92	0.929	0.9
29	549					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30550.4	0.0151956	4130.73	1	
1	655					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	699	30809	0.00382359	1298.85	0.7828	0.78
28	759					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30945.1	0.00593079	2103.94	0.2362	
1	869					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31109.4	0.00141603	1071.85	1	
1	975					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31154.4	0.00792995	541.865	0.8537	0.85
37	1079					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31205.3	0.0368905	1951.44	1	
1	1188					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31275.1	0.00385952	827.567	1	
1	1300					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31310.4	0.00333776	351.534	1	
1	1404					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31338.2	0.0129012	1428.51	0.3143	
1	1511					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31406.6	0.0043775	817.076	3.439	0.34
39	1619					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31428	0.0021647	1063.56	1	
1	1725					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31506.5	0.456359	9149.17	1	
1	1837					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31600.2	0.00559754	2178.88	0.4185	0.41
85	1950					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31614.1	0.00130289	992.775	0.2947	0.29
47	2055					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1999	31671	0.0187415	3064.42	1	
1	2161					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31909.4	0.000685612	961.951	1	
1	2265					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31954.1	0.000680397	272.618	1	
1	2373					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31958.5	0.00025974	350.262	1	
1	2482					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31969.3	0.00144705	515.866	1	
1	2593					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	31980.3	0.000797872	670.954	0.5444	0.54
44	2694					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32009.4	0.00186991	485.728	1	
1	2802					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32079.9	0.023927	1337.46	1	
1	2907					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32120.9	5.49892e-05	216.124	1	
1	3014					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32123.8	0.00038532	131.952	1	
1	3116					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32124.3	6.53098e-05	62.1395	1	
1	3221					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32124.7	0.00342996	535.531	1	
1	3325					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32125.5	0.000225178	133.83	0.3409	
1	3434					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32125.9	3.20375e-05	173.342	0.5989	0.59

```

89      3540
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3399      32126.4      0.00858546      427.137      1
1      3645
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3499      32130.5      8.0994e-05      56.3358      1
1      3750
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3599      32130.9      0.000186868      111.652      1
1      3856
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3699      32131.3      0.000106167      121.241      0.9739      0.97
39      3961
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3799      32131.5      0.00187575      264.757      0.2243
1      4067
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3899      32135      0.000138003      136.876      1
1      4177
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3999      32135.6      0.000151671      99.0095      1
1      4286
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      4010      32135.6      1.06869e-05      14.0125      0.8462      0.84
62      4298

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance


```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:18:44,862] Trial 6 finished with value: 74.7952287463039 and parameters: {'changepoint_prior_scale': 1.249148838013283, 'changepoint_range': 0.8052400067052131, 'seasonality_prior_scale': 2.7522713970104387, 'holidays_prior_scale': 0.12866660861466253, 'seasonality_mode': 'additive', 'weekly_seasonality': 10, 'yearly_seasonality': 17}. Best is trial 6 with value: 74.7952287463039.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28977.9	0.0891659	3820.21	1	
1	127					
a0	# evals	Notes			alpha	alph
	199	29764.3	0.042049	7439.92	1	
1	243					
a0	# evals	Notes			alpha	alph
	299	30425	0.00328609	8047.61	0.1792	0.17
92	356					
a0	# evals	Notes			alpha	alph
	399	31016.7	0.00674543	4094.51	1	
1	482					
a0	# evals	Notes			alpha	alph
	499	32098.7	0.04779	19225.1	1	
1	591					
a0	# evals	Notes			alpha	alph
	599	32564.4	0.00906651	6430.66	0.4771	0.47
71	705					
a0	# evals	Notes			alpha	alph
	699	32861.2	0.125283	5353.62	1	
1	813					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	33126.2	0.0214375	15021.5	1	
1	933					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	33350.1	0.000107743	1517.99	1	
1	1065					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	33417.3	0.0128288	1061.79	1	
1	1181					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	33442.6	0.0264012	3134.16	1	
1	1318					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	33477.5	0.00314306	2286.05	1	
1	1438					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	33494.7	0.000414388	1267.15	1	
1	1554					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	33523.1	0.000218876	882.482	1	
1	1676					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	33537.2	0.000685194	677.083	0.4422	0.44
22	1801					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	33557.4	0.00391059	1382.65	1	
1	1925					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	33572.3	0.000564698	1410.94	1	
1	2045					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	33583.9	0.000142159	1431.45	0.0505	0.05
05	2175					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	33594.1	0.0125515	2793.44	1	
1	2299					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	33596.5	0.000202494	248.199	1	
1	2417					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

2099      33597.8    0.000716346      954.64    0.8893    0.088
93  2532
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2199      33601.2    0.000394142      1876.19    0.2816    0.28
16  2655
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2299      33603.1    0.000541445      373.368    7.891    0.78
91  2775
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2399      33604.2    0.000292505      212.99    1
1  2903
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2499      33607.1    0.00417549      1062.56    1
1  3022
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2558      33607.8    9.39379e-05      52.3576    1
1  3088

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:19:00,794] Trial 7 finished with value: 90.92858306681482 and parameters: {'changepoint_prior_scale': 0.5882055373251683, 'changepoint_range': 0.821831622423915, 'seasonality_prior_scale': 4.640413089891275, 'holidays_prior_scale': 9.389287640059111, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 10, 'yearly_seasonality': 10}. Best is trial 6 with value: 74.7952287463039.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28361.3    0.084992      5706.86    1
1  119
  Iter      log prob      ||dx||      ||grad||      alpha      alph

```

a0	# evals	Notes				
	199	30143.2	0.0293374	7819.29	1	
1	226					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30861.9	0.00169923	1030.76	1	
1	334					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	31949.6	0.388456	17857.8	1	
1	439					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	34677	0.0219932	2156.66	1	
1	545					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	35480.6	0.00379057	1924.33	1	
1	651					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	36409	0.0233971	6060.99	1	
1	763					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	36621	0.0038966	3715.57	0.5104	
1	871					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	36789.1	0.00232925	1201.94	1	
1	976					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	36882.9	0.0489313	6725.12	1	
1	1081					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	37076.7	0.00777244	9667.9	0.5422	0.54
22	1194					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	37160.7	0.00173122	2579.69	1	
1	1300					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	37219.4	0.00423893	2300.73	0.8632	0.086
32	1410					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	37244.4	0.00816126	2840.6	1	
1	1515					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1499	37279.3	0.00275415	2585.76	1	
1	1622					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	37303.7	0.00164388	760.261	1	
1	1728					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	37458.2	0.00462347	2502.07	0.1837	
1	1837					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	37491.4	0.00110718	1145.85	0.1194	
1	1946					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	37503.1	0.00686258	1794.95	1	
1	2057					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	37508.2	0.000713868	174.241	1	
1	2163					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	37511.6	0.00420103	590.437	1	
1	2270					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	37514.8	0.000725661	593.035	1	
1	2373					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	37517	0.00021402	383.121	1	
1	2479					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	37520.5	0.00164033	461.773	1	
1	2588					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	37546.7	0.000601506	400.772	1	
1	2701					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	37550.3	0.00125267	636.778	1	
1	2807					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	37552.5	0.000757425	527.137	1	
1	2916					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	37556.9	0.000204685	61.0005	1	

```

1      3030
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2899      37562.1      0.00252535      295.74      1
1      3135
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2999      37563.5      0.000339315      171.447      0.282      0.2
82     3248
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3099      37566.3      0.00173454      339.301      1
1      3352
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3199      37567.7      7.93628e-05      274.619      0.456      0.4
56     3461
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3250      37567.9      8.26333e-05      21.9698      1
1      3517

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:19:20,360] Trial 8 finished with value: 120.19246377976282 and parameters: {'changepoint_prior_scale': 3.2620445256253547, 'changepoint_range': 0.8391592671526861, 'seasonality_prior_scale': 1.8423076740204205, 'holidays_prior_scale': 6.660606200192802, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 18}. Best is trial 6 with value: 74.7952287463039.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
   99      27203.7      0.0043236      1983.78      0.7671      0.76
71     128
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	199	28442.2	0.00977779	6290.12	0.28	0.
28	253					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	28860	0.0165562	11781.8	0.647	0.06
47	372					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29223.7	0.00524446	2027.95	1	
1	510					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	469	29321.6	9.98282e-05	2310.51	8.556e-08	0.0
01	659	LS failed, Hessian reset				
	499	29336	0.0019797	2158.29	1	
1	696					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	29588.8	0.0344418	8158.25	1	
1	825					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	29758.3	0.00364392	3019.73	0.9399	0.93
99	944					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	29829.3	0.00688088	1482.39	1	
1	1062					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	29885.9	0.027156	13498.6	1	
1	1186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	29990.2	0.00361623	2104.38	0.9082	0.90
82	1311					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1095	30003.1	1.81732e-05	1266.86	2.168e-08	0.0
01	1482	LS failed, Hessian reset				
	1099	30003.3	0.00036617	2166.37	1	
1	1486					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	30092.9	0.00324173	4869.79	0.8925	0.89
25	1607					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	30124.1	0.000885465	1893.46	0.06714	
1	1745					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	30157.4	0.0010621	1292.06	1	

```

1      1872
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1499      30174.2      0.000549902      1831.01      0.5646      0.56
46      1985
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1593      30188      8.66593e-06      956.292      9.431e-09      0.0
01      2156 LS failed, Hessian reset
  1599      30192      0.00138504      5016.4      0.8173      0.81
73      2164
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1699      30202.4      0.00202923      2692.93      0.5628      0.56
28      2299
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1799      30335.5      0.053339      23173.4      1
1      2416
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1899      30519.2      0.00330272      6548.29      0.1212      0.95
94      2542
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      30581.2      0.00257014      1666.45      1
1      2676
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      30608.9      0.0106155      5712.54      1
1      2799
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      30637.3      0.00639086      3647.73      1
1      2930
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2299      30666.9      0.0218253      2229.27      1.065      0.10
65      3047
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2399      30684.1      0.00172417      6570.2      1
1      3169
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2431      30689      4.07895e-06      924.586      2.551e-09      0.0
01      3253 LS failed, Hessian reset
  2499      30698.9      0.000390714      2232.58      1
1      3346
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2521      30699.5      4.16409e-06      460.908      1.995e-09      0.0
01      3417 LS failed, Hessian reset

```


	2599	30708.4	0.000454634	3056.75	0.3547	0.035
47	3518					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	30770.6	0.00810927	3990.45	1	
1	3631					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	30788.4	0.0070066	4509.44	1	
1	3747					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2816	30791.1	4.88224e-06	1259.16	4.065e-09	0.0
01	3816	LS failed, Hessian reset				
	2861	30796.4	1.86711e-05	1997.75	3.572e-08	0.0
01	3915	LS failed, Hessian reset				
	2899	30797.6	7.40789e-05	1138.91	1	
1	3962					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	30802.6	0.000162132	3555.47	0.4438	0.44
38	4088					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	30806.2	0.000372734	1326.4	0.9643	0.96
43	4227					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	30811.5	0.00132226	3125.62	1	
1	4357					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3242	30812.2	6.74227e-06	1591.68	2.676e-09	0.0
01	4462	LS failed, Hessian reset				
	3299	30812.7	0.000232192	1283.64	1	
1	4541					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	30834.1	0.0140861	13354.1	1	
1	4664					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	30868.9	0.0629542	19584	1	
1	4792					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3524	30872.5	1.04337e-05	2340.34	1.916e-09	0.0
01	4882	LS failed, Hessian reset				
	3567	30876.9	1.94625e-06	515.778	2.079e-09	0.0
01	4984	LS failed, Hessian reset				
	3599	30881.8	6.54685e-05	2368.06	0.5106	0.51
06	5037					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
3663 30884.9 1.96701e-05 1245.03 2.107e-08 0.0
01 5166 LS failed, Hessian reset
3699 30886.1 0.000886599 3960.27 1
1 5214
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3740 30887.4 3.17413e-06 920.783 3.668e-09 0.0
01 5307 LS failed, Hessian reset
3759 30887.5 2.35442e-06 729.738 3.303e-09 0.0
01 5381 LS failed, Hessian reset
3799 30888.1 0.0026315 2915.81 1
1 5435
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3893 30902.1 6.81935e-06 1215.27 1.718e-09 0.0
01 5642 LS failed, Hessian reset
3899 30903 0.00110864 10782.9 1
1 5649
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3999 30910.4 0.000222865 1192.82 1
1 5784
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4017 30910.9 3.5335e-06 594.771 1.701e-09 0.0
01 5861 LS failed, Hessian reset
4086 30911.8 2.44821e-06 759.422 2.922e-09 0.0
01 5992 LS failed, Hessian reset
4099 30912 0.000142801 3315.81 0.3722
1 6009
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4173 30913.2 2.61876e-06 800.956 2.717e-09 0.0
01 6147 LS failed, Hessian reset
4198 30913.6 1.78612e-06 603.529 3.525e-09 0.0
01 6235 LS failed, Hessian reset
4199 30913.6 8.22491e-07 484.851 1
1 6236
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4234 30913.7 2.72902e-06 821.182 4.266e-09 0.0
01 6332 LS failed, Hessian reset
4299 30913.9 6.17097e-06 1523.32 0.3547 0.35
47 6418
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4399 30916.7 0.000334068 1217.3 0.1089
1 6568
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4428 30917 1.47532e-06 431.04 2.19e-09 0.0
01 6660 LS failed, Hessian reset

```

	4435	30917	3.59585e-06	1053.09	4.717e-09	0.0
01	6716	LS failed,	Hessian reset			
	4451	30917.1	4.30092e-06	708.666	1.636e-08	0.0
01	6791	LS failed,	Hessian reset			
	4499	30917.3	1.76117e-05	632.2	0.2744	
1	6870					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4599	30917.6	1.91705e-05	496.047	1	
1	7002					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4699	30930.7	0.000707165	6366.45	0.4348	
1	7124					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4799	30938.5	0.000108217	1156.3	0.03285	0.99
33	7248					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4899	30939.9	1.59597e-05	1121.45	1	
1	7388					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4999	30940.4	9.43063e-05	602.045	1	
1	7519					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5099	30949.6	0.000132313	1721.7	0.6794	0.67
94	7650					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5164	30953.8	9.57111e-06	1255.87	1.519e-09	0.0
01	7786	LS failed,	Hessian reset			
	5194	30955	8.56051e-06	1573.13	1.975e-08	0.0
01	7873	LS failed,	Hessian reset			
	5199	30955.1	0.000145274	3298.56	1	
1	7878					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5299	30957.2	9.52052e-05	1218.95	1	
1	8026					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5399	30959.7	0.0035816	1449.65	1	
1	8151					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5445	30962.8	1.56565e-06	494.712	2.049e-09	0.0
01	8264	LS failed,	Hessian reset			
	5499	30963.5	0.000117293	1669.47	0.484	0.4
84	8331					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
5557 30964.2 2.65753e-06 782.105 1.955e-09 0.0
01 8454 LS failed, Hessian reset
5599 30964.6 7.40607e-06 329.021 0.2416 0.24
16 8507
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5616 30964.6 3.05009e-06 800.581 6.532e-09 0.0
01 8582 LS failed, Hessian reset
5699 30964.8 8.95433e-06 720.963 0.3302 0.33
02 8702
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5750 30965 2.17391e-06 746.958 2.5e-09 0.0
01 8804 LS failed, Hessian reset
5799 30965.2 1.9425e-05 406.509 1
1 8869
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5899 30966.4 0.0146701 12694.2 0.7304 0.73
04 8990
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5999 30976.1 0.000197622 3022.05 0.1481 0.14
81 9118
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
6099 30987.3 0.00383581 4092.37 0.7381 0.73
81 9242
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
6199 31038.9 0.00656739 22692.1 1
1 9365
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
6299 31082.8 0.0104675 2904.92 1
1 9490
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
6399 31150.5 0.000155952 7331.52 1
1 9604
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
6499 31178.4 0.00107905 18562.2 1
1 9720
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
6599 31221.9 0.000408928 1397.31 1
1 9830
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
6699 31227.1 0.000142572 1075.88 0.7512 0.075
12 9962

```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	6780	31229	3.47807e-06	1915	1.644e-09	0.0
01	10100	LS failed, Hessian reset				
	6799	31229.5	0.000525581	5876.38	1	
1	10119					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	6899	31231	2.09561e-05	1125.4	1	
1	10247					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	6987	31232	1.80518e-06	941.321	2.451e-09	0.0
01	10414	LS failed, Hessian reset				
	6999	31232	6.86278e-05	2582	1	
1	10426					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	7082	31232.6	2.77881e-06	917.015	8.623e-09	0.0
01	10590	LS failed, Hessian reset				
	7099	31232.7	4.80006e-05	972.729	0.486	0.4
86	10617					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	7199	31233.1	1.33049e-05	1934.99	1	
1	10749					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	7299	31233.3	3.45534e-05	615.818	1	
1	10872					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	7399	31233.7	8.71454e-05	910.553	0.5144	
1	10992					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	7499	31234.9	4.12791e-05	636.863	1	
1	11127					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	7500	31234.9	2.21973e-06	1011.67	3.485e-09	0.0
01	11181	LS failed, Hessian reset				
	7558	31235	5.47101e-06	2371.3	3.208e-09	0.0
01	11312	LS failed, Hessian reset				
	7599	31235	1.1523e-06	435.676	1	
1	11366					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	7612	31235	1.56978e-07	376.78	0.05182	
1	11386					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:20:06,261] Trial 9 finished with value: 77.53413139002663 and parameters: {'changepoint_prior_scale': 0.006904932822669962, 'changepoint_range': 0.8110214837558719, 'seasonality_prior_scale': 7.382006752974248, 'holidays_prior_scale': 5.273947824395094, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 5, 'yearly_seasonality': 8}. Best is trial 6 with value: 74.7952287463039.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	29519.2	0.00888342	6241.93	0.7687	0.76
87	113					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	31030.6	0.00800635	4058.54	1	
1	219					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	31779.8	0.0213717	2968.96	1	
1	325					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	32192.8	0.0547669	10146.4	1	
1	429					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	35029	1.17699	47872.8	1	
1	542					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	37447.7	0.0183532	8670.39	1	
1	650					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	38103	0.0229754	8770.83	1	
1	762					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	38385.6	0.0347049	7609.35	1	
1	876					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	38787.6	0.0243598	8062.23	1	
1	982					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	38912.8	0.00580489	3628.15	0.2494	0.24
94	1087					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	38978.7	0.00334526	1750.82	1	
1	1194					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	39128.8	0.0173417	3432.35	1	
1	1300					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	39266	0.00114668	708.417	1	
1	1405					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	39364.6	0.00524554	8165.38	1	
1	1512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	39452.8	0.000386488	732.597	0.9489	0.94
89	1618					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	39473.9	0.0024805	1193.65	1	
1	1727					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	39766.8	0.0597837	4475.08	1	
1	1836					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	39911.2	0.00068115	858.561	0.272	0.2
72	1943					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	39928.1	0.00144569	776.102	1	
1	2051					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	39939.9	0.00329303	1601.54	0.8226	0.82
26	2164					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	39951.5	0.000170297	1607.07	0.6388	0.63
88	2270					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	39965.1	0.000742735	776.003	1	
1	2374					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	39974.2	0.00165789	2986.09	0.6037	0.60
37	2481					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	39995.3	0.00641148	3663.5	1	
1	2592					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	40025.5	0.0176687	1873.4	1	
1	2700					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	40054.5	0.00313269	2425.02	1	
1	2813					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	40061.7	0.00140875	886.525	1	
1	2924					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	40066.8	0.00311919	1687.59	1	
1	3037					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	40077	0.000878128	1069.38	0.8608	0.86
08	3147					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	40080.1	0.000202753	210.436	1	
1	3253					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	40083.7	0.00578022	1988.32	0.3213	
1	3365					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	40109.3	0.000921831	1835.18	1	
1	3468					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	40114.8	5.02407e-05	188.068	1	
1	3578					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	40116.9	0.000449255	521.035	1	


```

1      3685
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      40119.9      0.00111478      78.9229      1
1      3790
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      40120.8      0.00479279      509.279      1
1      3900
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      40123.1      0.00820894      267.087      1
1      4010
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      40124.2      0.00354265      435.444      1
1      4115
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3853      40124.4      2.04563e-05      34.174      1
1      4171

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:20:22,923] Trial 10 finished with value: 146.8743012433066 and parameters: {'changepoint_prior_scale': 1.9273569254133742, 'changepoint_range': 0.8588229000236552, 'seasonality_prior_scale': 3.5049779760604234, 'holidays_prior_scale': 0.6385990920408413, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 2}. Best is trial 6 with value: 74.7952287463039.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
   99      27256.9      0.0107655      14427.1      1
1     121
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	199	29055	0.0213427	13436.5	1	
1	236					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29679.6	0.00901506	10682.1	0.1147	
1	342					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30294.5	0.0221672	12827.6	1	
1	470					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30527	0.00248679	2018.7	1	
1	595					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30738.1	0.00553715	4809.06	1	
1	714					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31029.5	0.00778876	3816.38	1	
1	831					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31149.4	0.000391872	1465.26	1	
1	953					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31183.1	0.000323534	2416.78	1	
1	1074					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31374.8	0.000754296	3063.22	1	
1	1195					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31474.1	0.0104724	10305.1	1	
1	1320					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31595.8	0.0142932	3028.02	3.334	0.033
34	1447					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31632.9	0.00044049	862.003	1	
1	1571					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31669.3	0.00813184	3723.67	0.733	0.7
33	1691					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31689.9	0.00599926	2036.19	0.163	

1	1822						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1599	31698.8	0.00105732	2290.07	0.9688	0.96	
88	1941						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1699	31712.7	0.000371753	537.357	1		
1	2059						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1799	31719.1	0.000705639	8206.19	0.3641		
1	2183						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1899	31726.3	0.00031625	1661.38	1		
1	2293						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1999	31732.1	0.0001974	1029.56	0.9937	0.99	
37	2420						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2099	31735.8	0.000359219	1776.65	0.6948	0.69	
48	2541						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2199	31752.8	0.000508696	1372.7	1		
1	2664						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2299	31762.1	0.00110057	1400.81	1		
1	2783						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2399	31767.2	0.000303639	2433.68	0.3054		
1	2905						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2499	31779.8	0.000168508	1213.14	0.5032	0.50	
32	3023						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2599	31783.1	0.000203471	797.8	1		
1	3155						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2699	31787.3	2.14459e-05	740.496	1		
1	3283						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2799	31790.1	0.0014243	1822.01	4.5	0.0	
45	3404						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	31791.5	8.32194e-05	1445.31	0.4715	0.47
15	3530					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2999	31792.9	2.07151e-05	2036.25	0.2099	
1	3655					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3099	31793.8	0.000798898	430.719	0.2217	
1	3784					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3199	31796.3	0.00051371	1152.27	1	
1	3909					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3299	31799.6	0.00125473	3291.7	0.4795	
1	4021					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3399	31816.8	0.00107675	907.701	1	
1	4152					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3499	31825.4	0.000819262	954.179	1	
1	4277					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3599	31829.7	0.000464521	553.223	1	
1	4393					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3699	31833.4	0.00029134	1492.43	0.6522	0.65
22	4514					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3789	31835.5	1.28304e-06	439.854	5e-09	0.0
01	4693	LS failed, Hessian reset				
	3799	31835.7	0.000115709	302.215	1	
1	4706					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3899	31836.6	0.000129437	827.843	1	
1	4835					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3999	31837.8	8.35416e-05	513.061	0.3514	
1	4960					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4022	31838.1	1.19153e-06	250.47	1.334e-09	0.0

01	5045	LS failed, Hessian reset				
	4099	31838.5	3.14444e-05	649.935	0.3716	0.37
16	5138					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4199	31840.5	0.0154447	1432.28	1	
1	5267					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	31849.6	0.00199349	1050.83	1	
1	5395					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	31859.8	0.0111391	2423.41	1	
1	5514					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4499	31865.6	0.000383006	1564.59	1	
1	5642					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4599	31869.1	0.00844242	11948.8	1	
1	5757					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4699	31876.7	0.000678904	1528.74	0.6962	0.69
62	5880					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4799	31878.9	0.00209834	8210.79	1	
1	5997					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4899	31884.6	0.00974414	3582.57	1.805	0.18
05	6110					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4999	31906	0.00200386	2956.09	1	
1	6226					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5099	31920.5	0.00120205	1933.84	1	
1	6334					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5199	31931.7	0.00209668	3616.78	0.5843	0.58
43	6449					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5299	31944.4	0.00655612	11518.4	0.4221	
1	6580					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

1      5399      31951.4    0.000202685      1468.41      1
1      6693
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      5499      31957    0.000821117      1500.48      1
1      6815
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      5599      31960.1    0.000300712      2363.01      0.4579
1      6945
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      5699      31963.2    0.000303571      1806.32      1
1      7073
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      5799      31965.9    3.50825e-05      2234.53      1
1      7188
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
12     5899      31968.2    2.402e-05      1001.39      0.8312      0.83
12     7310
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
01     5971      31970.3    4.02522e-06      441.205      1.249e-08      0.0
01     7448 LS failed, Hessian reset
1      5999      31970.7    0.00112427      5920.06      1
1      7486
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      6099      31971.9    7.55293e-05      1077.68      1
1      7625
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
01     6150      31972.1    7.1466e-07      395.493      6.565e-10      0.0
01     7738 LS failed, Hessian reset
1      6199      31972.3    0.000109762      4152.98      1
1      7801
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      6240      31972.4    2.95662e-06      151.064      1
1      7859
Optimization terminated normally:
Convergence detected: relative gradient magnitude is below tolerance

```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:20:55,658] Trial 11 finished with value: 70.66361400790363 and parameters: {'changepoint_prior_scale': 0.020948132736952063, 'changepoint_range': 0.8004886848065317, 'seasonality_prior_scale': 6.705006262229462, 'holidays_prior_scale': 0.22154021129520113, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27429.6	0.032903	3586.22	1	
1	122					
a0	# evals	Notes			alpha	alph
	199	28928.2	0.0160243	9394.72	0.2448	
1	229					
a0	# evals	Notes			alpha	alph
	299	29604.7	0.073697	3550.6	0.7458	0.74
58	337					
a0	# evals	Notes			alpha	alph
	399	29888.4	0.00485296	1254.43	1	
1	446					
a0	# evals	Notes			alpha	alph
	499	30168.7	0.00657708	1405.08	0.317	
1	558					
a0	# evals	Notes			alpha	alph
	599	30457.2	0.0201816	2544.97	0.6647	0.66
47	664					
a0	# evals	Notes			alpha	alph
	699	30723.3	0.00511378	2291.32	1	
1	773					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30885.6	0.0577404	2687.53	1	
1	885					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31127.5	0.0170214	1397.86	0.234	
1	997					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31299.2	0.00331357	2226.62	1	
1	1106					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31352.5	0.00663118	1625.88	0.1763	0.17
63	1216					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31396	0.00447732	738.442	1	
1	1319					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31447.3	0.339184	4065.5	1	
1	1426					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31582.2	0.00194172	336.606	0.9779	0.97
79	1535					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31606.1	0.00620131	1081.56	1	
1	1639					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31620.4	0.0366677	2599.46	1	
1	1742					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31744.3	0.0746274	2123.92	1	
1	1851					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31853.9	0.00254573	577.547	1	
1	1963					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31917.2	0.00148738	481.261	1	
1	2072					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31925.1	0.00207816	492.11	1	
1	2183					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	31941.1	0.00282921	968.197	1	
1	2289					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31947.8	0.00519792	641.04	0.3959	
1	2395					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31965.7	0.0011052	848.239	0.3776	0.037
76	2507					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32032.8	0.0684163	2091.82	1	
1	2619					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32122.9	0.000698659	430.914	1	
1	2731					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32130.2	0.00149756	666.398	1	
1	2835					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32133.8	0.000708486	187.558	1	
1	2940					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32136.9	0.0032749	1059.25	1	
1	3046					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32139.9	0.000735853	198.256	1	
1	3157					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32146.3	0.00406945	1084.1	1	
1	3267					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32168.6	0.0153863	614.626	1	
1	3376					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32181.7	0.000470371	382.92	0.4059	0.40
59	3488					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32183.6	0.00214819	305.622	0.7013	0.70
13	3596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32189.1	0.0115884	509.952	1	

1	3705						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3499	32192.9	0.00449463	167.617	1		
1	3821						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3599	32194.6	0.00329036	217.476	0.4646		
1	3933						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3699	32196.2	0.00402739	130.689	1		
1	4041						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3799	32196.9	0.000652336	270.774	1		
1	4151						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3899	32197.5	0.000307013	82.191	1		
1	4261						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3999	32198.5	0.00403058	514.103	1		
1	4368						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4099	32202.6	0.000819529	298.495	1		
1	4474						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4199	32203.4	0.000356935	123.537	0.107		
1	4587						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4299	32204.4	0.00867873	385.159	0.9556	0.95	
56	4693						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4399	32205.1	0.000332274	108.57	1		
1	4801						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4499	32205.6	0.00255878	96.2978	1		
1	4912						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4599	32206	0.000460402	45.8628	1		
1	5016						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4699	32206.6	0.000733985	298.456	1		
1	5124						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4799	32211.1	0.0249576	865.472	1	
1	5233					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4899	32213.9	0.000546006	173.478	1	
1	5351					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4999	32214.3	9.29151e-05	48.8895	1	
1	5460					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	5099	32214.7	0.000255059	43.8498	1	
1	5566					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	5199	32215.1	0.000250946	93.2276	1	
1	5679					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	5220	32215.1	0.000304411	18.8185	1	
1	5703					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:21:20,087] Trial 12 finished with value: 71.39444678199759 and parameters: {'changepoint_prior_scale': 1.7746902290337045, 'changepoint_range': 0.8006593180540951, 'seasonality_prior_scale': 6.142900826027535, 'holidays_prior_scale': 0.17320835150227865, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28454	0.0020215	3791.84	0.4398	0.43

98	124					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29332.7	0.00624847	2052.29	1	
1	247					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29846.7	0.00881099	5635.09	1	
1	367					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30240.3	0.0287473	53266	0.5922	0.59
22	484					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30880.4	0.00352887	3469.61	0.8981	0.89
81	608					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31069.1	0.0602829	17605.5	0.04476	
1	733					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31233	0.014673	6605.76	1	
1	856					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31468.9	0.00848524	2462.5	0.4599	
1	979					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31710.3	0.0452307	11326.5	1	
1	1107					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31899	0.00968655	13345.8	0.8623	0.86
23	1225					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31971.3	0.00498242	6539.86	1	
1	1345					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32049.8	0.0284144	10336.6	0.6002	0.060
02	1474					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32128.7	0.0205843	1601.99	1	
1	1590					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32161.7	0.00279698	1571.56	0.517	0.5
17	1711					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32179.3	0.000152017	1553.47	0.2625	0.26
25	1838					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1599	32188.5	0.00500495	2575.12	1	
1	1951					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1699	32194.5	0.00699347	2767.57	1	
1	2069					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1799	32202.4	0.00153614	1250.86	1	
1	2185					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1899	32204.2	0.000227666	154.3	1	
1	2312					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1999	32217.5	0.00184737	5855.55	0.5982	0.59
82	2429					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2099	32224	4.93476e-05	1155.16	0.07748	
1	2548					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2199	32225.7	0.00106876	1025.4	0.4912	
1	2665					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2299	32226.5	0.000206524	1347.3	0.04556	
1	2784					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2399	32226.9	0.000198151	509.429	0.1773	0.17
73	2910					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2430	32227	3.82326e-05	50.4737	1	
1	2949					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:21:32,563] Trial 13 finished with value: 73.7046858701558 and parameters: {'changepoint_prior_scale': 2.171535789853099, 'changepoint_range': 0.80350071246006, 'seasonality_prior_scale': 6.331910117909063, 'holidays_prior_scale': 1.2922706591112019, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 1}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28894.3	0.00925094	7515.8	0.7617	0.76
17	122					
a0	# evals	Notes				
	199	29897.3	0.0899478	5417.65	1	
1	231					
a0	# evals	Notes				
	299	30525.2	0.0130358	2118.45	1	
1	336					
a0	# evals	Notes				
	399	30833.1	0.104079	5926.99	1	
1	445					
a0	# evals	Notes				
	499	32898.4	0.0466954	8682.94	1	
1	553					
a0	# evals	Notes				
	599	34205.3	0.0620134	10088.6	0.07225	
1	667					
a0	# evals	Notes				
	699	35136	0.0423761	7428.78	0.3819	0.38
19	772					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	35377.2	0.00575635	4712.37	0.8861	0.88
61	884					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	35713.1	0.00142482	1073.58	1	
1	998					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	35886.4	0.00564804	2384.03	1	
1	1106					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	36043.4	0.00667951	1105.33	1	
1	1212					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	36204.6	0.0864464	5173.87	1	
1	1325					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	36284.7	0.000230765	920.551	0.972	0.9
72	1428					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	36359.4	0.0136214	1408.94	1	
1	1536					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	36427.1	0.00259076	1103.33	0.8	
0.8	1644					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	36469.8	0.00408874	3625.94	0.04869	
1	1753					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	36528.2	0.0300209	2180.47	1	
1	1864					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	36616.2	0.00392704	2954.4	1	
1	1975					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	36651.9	0.0367619	1119	1	
1	2095					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	36688.4	0.0307478	897.128	1	
1	2202					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	36716.7	0.00478272	1334.3	1	
1	2310					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	36725.6	0.00217156	2204.07	1	
1	2418					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	36737.3	0.000955908	567.423	1	
1	2527					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	36742	0.00421552	961.424	1	
1	2640					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	36751.8	0.00485645	405.351	0.5146	
1	2752					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	36768.4	0.00142591	371.397	0.8468	0.84
68	2861					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	36774.4	0.00533369	401.093	1	
1	2969					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	36784.7	0.00637619	658.145	0.5201	
1	3081					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	36793.5	0.00358133	667.549	1	
1	3193					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	36798.5	0.000356188	226.403	0.8763	0.87
63	3301					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	36803.4	0.0204955	1053.66	1	
1	3412					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	36818.9	0.0065587	2289.5	1	
1	3520					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	36842	0.0192265	1095.07	0.242	
1	3630					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	36843.2	0.000579372	251.958	1	


```

1      3738
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals  Notes
  3499      36843.6      8.04118e-05      58.8589      1
1      3848
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals  Notes
  3562      36843.7      1.27043e-05      28.4684      0.9219      0.92
19     3916

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:21:50,476] Trial 14 finished with value: 113.8075790178041 and parameters: {'changepoint_prior_scale': 3.1444847748115436, 'changepoint_range': 0.8358363272892683, 'seasonality_prior_scale': 6.812777260347957, 'holidays_prior_scale': 2.055441759065933, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals  Notes
  99      28377.4      0.229096      17205.8      1
1      124
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals  Notes
  199      29388.6      0.0294033      6704.81      1
1      248
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals  Notes
  299      29982.9      0.00367623      3036.5      1
1      368
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals  Notes
  399      30493.7      0.0222371      9307.56      0.9319      0.93
19     479
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals  Notes

```

	499	30909.8	0.0149118	3353.07	1	
1	598					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31087.7	0.00210915	4585.31	0.6099	0.60
99	714					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31335	0.0735975	5865.86	0.3824	
1	834					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31539	0.023299	2616.83	1	
1	947					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31786.7	0.0173247	2507.63	1	
1	1074					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31899.2	0.000426249	1875.7	1	
1	1193					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32047.9	0.00085589	1170.9	1	
1	1321					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32121.7	0.00636341	1203.36	1	
1	1441					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32173.2	0.00186476	550.175	0.6844	0.68
44	1563					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32194.6	0.00479833	1474.68	0.5575	0.55
75	1683					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32224.8	0.00233879	10017.8	0.6767	0.67
67	1795					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32240.5	0.00222057	422.69	1	
1	1916					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32247.2	0.000825159	1237.13	1	
1	2040					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32253.3	0.00252985	563.062	1	

```

1      2157
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1899      32262.5      0.00664339      1103.88      1
1      2273
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      32269.7      0.00408931      998.512      0.4981
1      2399
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      32272.4      0.00240714      296.708      1
1      2532
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      32276.9      0.00244399      265.351      1
1      2654
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2299      32278.6      0.000371652      429.647      1
1      2769
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2399      32279.7      0.000338049      706.884      1
1      2904
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2499      32280.5      0.00133892      182.045      1
1      3030
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2571      32280.9      0.0002265      59.321      1
1      3115

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:22:04,589] Trial 15 finished with value: 71.2152764932369 and parameters: {'changepoint_prior_scale': 1.6165525517147357, 'changepoint_range': 0.8000829571054148, 'seasonality_prior_scale': 5.929093509805653, 'holidays_prior_scale': 1.7341221858190452, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	30756.5	0.069168	16891.5	1	
1	128					
a0	# evals	Notes			alpha	alph
	199	32087.2	0.0115728	4205.96	1	
1	250					
a0	# evals	Notes			alpha	alph
	299	33659.5	0.0459738	7826.47	1	
1	367					
a0	# evals	Notes			alpha	alph
	399	36852.3	0.0675681	12848.7	1	
1	487					
a0	# evals	Notes			alpha	alph
	499	37559.7	0.00761083	4626.15	0.5685	0.56
85	603					
a0	# evals	Notes			alpha	alph
	599	38160.6	0.00646741	7080.66	1	
1	716					
a0	# evals	Notes			alpha	alph
	699	38721.6	0.178534	19883.2	1	
1	834					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	39319.5	0.0235742	7822.68	1	
1	955					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	39505.8	0.0223339	15946.3	0.4494	
1	1078					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	39645.3	0.00733758	3671.58	0.8355	0.83
55	1196					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	39749.1	0.0204776	8213.18	1	
1	1319					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	39878.3	0.00958808	3251.48	1	
1	1429					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	39960.3	0.00111129	4955.97	1	
1	1551					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	40097.9	0.00658908	4240.54	1	
1	1671					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	40134.5	0.0015647	2067.06	1	
1	1797					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	40230.2	0.000289049	4204.77	0.4904	0.49
04	1922					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	40334.9	0.00479177	17124.8	0.02853	
1	2043					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	40363.8	0.000388305	1767.99	1	
1	2170					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	40371	0.00230889	5697.38	0.5705	0.57
05	2293					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	40393.8	0.00320287	805.109	0.973	0.9
73	2407					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	40414.1	0.00067342	4266.95	10	
1	2523					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	40421.6	0.000268899	516.589	0.4503	0.45
03	2649					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	40429	0.000834284	804.679	1	
1	2767					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	40432.6	0.000212293	1063.49	0.1038	
1	2886					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	40435.2	0.00127241	415.832	1	
1	3004					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	40438	0.00252481	1255.27	1	
1	3128					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	40440.9	0.00127059	1037.8	0.8648	0.86
48	3251					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	40442.1	0.00126373	1970.16	1	
1	3371					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	40443.5	0.000281031	727.33	1	
1	3496					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	40444.4	0.00271547	553.103	1	
1	3616					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	40445	0.000674478	354.763	0.9875	0.098
75	3737					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	40445.4	0.000854714	316.365	1	
1	3858					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	40445.8	0.00104621	2139.87	0.2716	
1	3978					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	40446.2	0.00163223	2522.16	1	

```

1      4095
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      40446.6      0.000548474      376.067      1
1      4212
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      40447.1      0.00180192      1842.53      1
1      4337
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      40447.6      0.000350908      413.95      0.01919
1      4451
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      40449.6      0.000442361      635.889      0.4001
1      4578
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      40451.8      8.96804e-05      665.908      0.1181
1      4706
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3999      40452.4      0.000113762      312.981      1
1      4828
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4099      40453.5      0.000550122      408.673      1
1      4945
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4153      40453.6      0.000103641      61.8956      1
1      5006

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:22:26,513] Trial 16 finished with value: 147.79023590683929 and parameters: {'changepoint_prior_scale': 2.65802789378485, 'changepoint_range': 0.8697010630679756, 'seasonality_prior_scale': 0.26875806846783945, 'holidays_prior_scale': 3.410514917392529, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28628.6	0.0290329	5791.02	1	
1	135					
a0	# evals	Notes			alpha	alph
	199	29583.2	0.00519927	4906.39	0.09778	0.31
73	250					
a0	# evals	Notes			alpha	alph
	299	30199.5	0.00637548	7944.57	0.456	0.4
56	367					
a0	# evals	Notes			alpha	alph
	399	30850.9	0.00493361	3352.17	1	
1	486					
a0	# evals	Notes			alpha	alph
	499	31254.1	0.037223	14328.1	1	
1	608					
a0	# evals	Notes			alpha	alph
	599	31619.2	0.0098442	4075.62	1	
1	729					
a0	# evals	Notes			alpha	alph
	699	31943.5	0.091729	17137.4	1	
1	843					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	32131.6	0.00301204	10912	1	
1	955					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32204.2	0.00859263	7723.23	1	
1	1075					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32250	0.00165024	8867.14	1	
1	1191					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32300.3	0.00244663	3018.11	1	
1	1314					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32324.6	0.00038398	1653.02	1	
1	1428					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32336.1	0.00035809	1260.24	0.8579	0.085
79	1552					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32346.1	0.00287253	4238.59	1	
1	1671					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32361.6	0.000657042	980.429	0.1026	
1	1788					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32376.7	0.0124914	4588.75	1	
1	1909					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32382.1	0.00225053	2814.01	1	
1	2026					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32388.6	0.00252066	1487.26	0.9125	0.91
25	2169					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32391	0.000849119	2223.26	0.3705	
1	2291					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32392.8	5.50738e-05	183.998	1	
1	2417					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

1      2099      32393.5    0.000522674      451.035      1
1      2530
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2199      32394.4    0.000952383      685.8      1
1      2651
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2299      32397.4    0.000452162      696.242      1
1      2765
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2399      32399.7    0.00133094      1159.51      1
1      2881
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2499      32402.6    0.000827526      2002.2      1
1      3009
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2599      32403.5    0.00022713      1132.11      1
1      3133
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
26     2699      32405      0.00321148      2397.94      0.4726      0.47
26     3267
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2799      32406.7    8.16918e-05      785.991      1
1      3379
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2899      32408      3.09372e-05      317.521      1
1      3496
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
86     2999      32408.5    0.000137374      306.313      4.086      0.40
86     3627
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
01     3024      32408.5    6.02755e-07      116.428      2.914e-09      0.0
01     3710 LS failed, Hessian reset
Optimization terminated normally:
Convergence detected: relative gradient magnitude is below tolerance

```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:22:43,394] Trial 17 finished with value: 83.97606171975433 and parameters: {'changepoint_prior_scale': 0.043405473880860385, 'changepoint_range': 0.8159636152914274, 'seasonality_prior_scale': 9.958914870004119, 'holidays_prior_scale': 2.3180264377902584, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28992.9	0.0117412	7000.41	0.06554	
1	120					
a0	# evals	Notes			alpha	alph
	199	30215.2	0.00369038	2883.73	0.193	0.1
93	233					
a0	# evals	Notes			alpha	alph
	299	31298.9	0.649913	33729	1	
1	349					
a0	# evals	Notes			alpha	alph
	399	33119.5	0.0711577	23691.5	1	
1	458					
a0	# evals	Notes			alpha	alph
	499	34665.7	0.00739767	17316.8	1	
1	568					
a0	# evals	Notes			alpha	alph
	599	35199.2	0.0282307	10582.4	1	
1	692					
a0	# evals	Notes			alpha	alph
	699	35597.7	0.00780179	9315.74	1	
1	821					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	35910.1	0.0207259	13216.4	1	
1	934					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	36031	0.0194511	15477.1	7.568	0.075
68	1064					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	36177.6	0.00188327	1761	0.9992	0.99
92	1192					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	36308.3	0.00410164	2846.42	0.876	0.8
76	1312					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	36409.5	0.000537862	21245.7	0.6606	0.66
06	1434					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	36451.3	0.000851287	4242.24	1	
1	1549					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	36484.5	0.00133965	1652.59	1	
1	1673					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	36535.1	0.0001423	1346.4	1	
1	1794					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	36543.2	0.00379555	23260.5	1	
1	1905					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	36552.2	4.07534e-05	621.178	1	
1	2021					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	36563	0.000846468	2467.96	0.1619	0.16
19	2140					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	36573.7	0.00657307	611.423	1	
1	2271					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	36588	0.00313782	956.181	0.1813	
1	2392					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	36597.9	0.000330536	654.909	1	
	2512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	36606.4	0.000297895	407.57	1	
1	2636					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	36608	0.000260899	890.824	0.1107	
1	2762					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	36608.5	5.11998e-05	565.545	0.2021	
1	2880					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	36609.3	0.000123694	1213.84	0.1291	
1	3001					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	36609.6	7.92147e-05	885.441	0.9008	0.90
08	3117					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2613	36609.6	2.79607e-05	59.4363	1	
1	3135					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:22:58,957] Trial 18 finished with value: 111.341222483908 and parameters: {'changepoint_prior_scale': 1.2946251415565566, 'changepoint_range': 0.834585898264055, 'seasonality_prior_scale': 5.429808868283845, 'holidays_prior_scale': 1.4307508080446127, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 9, 'yearly_seasonality': 7}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

a0	# evals	Notes				
	99	29671.2	0.0599317	14622.8	0.8482	0.84
82	122					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	31618.1	0.06626	6544.16	1	
1	248					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	35369.2	0.00804081	31027.8	1	
1	377					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	36860	0.0163158	25021.7	1	
1	493					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	37791.4	0.0065589	7612.56	0.5976	0.59
76	614					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	38036.4	0.003394	14717.4	1	
1	733					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	38181.7	0.00150132	6504.57	0.9986	0.99
86	850					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	38528.7	0.0252778	27470.7	1	
1	973					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	38649.3	0.00829259	11445.8	1	
1	1091					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	38725.8	0.00102888	3941.64	0.2828	
1	1214					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	38760.3	0.00677164	5132.85	1.157	0.11
57	1332					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	38789.6	0.000890956	1683.45	1	
1	1439					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	38817.8	0.00419425	3963.43	0.6075	0.60
75	1554					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1399	38838.1	0.000822396	2694.33	0.2914	0.29
14	1672					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	38847.1	0.000779881	711.442	1	
1	1795					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	38849.4	0.000860132	974.143	1	
1	1913					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	38851.1	0.000229249	1187.63	0.5735	0.57
35	2032					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	38856.5	0.000959791	780.519	1	
1	2150					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	38857.9	7.79696e-05	1287.51	1	
1	2264					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	38858.7	0.000306173	266.125	1	
1	2382					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2062	38858.8	5.45862e-05	127.981	0.8652	0.86
52	2458					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:23:09,489] Trial 19 finished with value: 131.6513544924232 and parameters: {'changepoint_prior_scale': 0.6802375686698372, 'changepoint_range': 0.8452029379290784, 'seasonality_prior_scale': 7.723460603680946, 'holidays_prior_scale': 4.049023962377697, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	30211.4	0.00853962	4418.14	1	
1	118					
a0	# evals	Notes			alpha	alph
	199	31779.9	0.0329238	2724.69	1	
1	223					
a0	# evals	Notes			alpha	alph
	299	34437.4	0.187545	11396.7	1	
1	337					
a0	# evals	Notes			alpha	alph
	399	35771.9	0.0166223	5658.27	1	
1	450					
a0	# evals	Notes			alpha	alph
	499	36507.1	0.0598613	7085.58	0.6262	0.62
62	578					
a0	# evals	Notes			alpha	alph
	599	37442.6	0.00829368	4134.92	3.302	0.33
02	698					
a0	# evals	Notes			alpha	alph
	699	38066.2	0.00114171	7832.94	0.2257	0.22
57	822					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	38362.4	0.00940798	5138.87	1	
1	938					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	38447.2	0.0059938	2794.72	1.556	0.15
56	1050					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	38564.4	0.00663753	1009.63	1	
1	1166					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	38669.3	0.00488748	1693.36	1	
1	1278					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	38700.2	0.00297032	1419.62	1	
1	1394					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	38710.6	0.00225648	450.663	1	
1	1511					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	38737.6	0.00116807	346.235	0.9487	0.94
87	1632					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	38747.5	0.005477	3195.27	1	
1	1746					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	38757.1	0.00273945	900.308	1	
1	1858					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	38768.2	0.00428047	914.877	1	
1	1976					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	38771.7	0.000289815	323.365	0.8725	0.87
25	2093					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	38775.5	0.0034874	1054.45	0.3635	
1	2214					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	38777.9	0.000262566	196.462	1	
1	2325					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	38778.8	0.0032759	261.816	1	
	2448					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	38780.4	9.01429e-05	236.293	0.2196	0.21
96	2569					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	38780.9	0.000167334	150.197	0.4777	0.47
77	2685					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	38781.7	0.00139174	194.706	0.3536	
1	2808					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	38784.4	0.00162466	161.215	1	
1	2925					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	38785	0.00233954	185.33	1	
1	3040					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	38785.3	0.00100815	180.795	1	
1	3159					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	38785.7	0.000829145	78.0316	1	
1	3279					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2876	38785.9	0.00116924	40.795	0.5289	0.52
89	3377					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:23:26,023] Trial 20 finished with value: 135.2746859950632 and parameters: {'changepoint_prior_scale': 4.002098289103449, 'changepoint_range': 0.8954439849395422, 'seasonality_prior_scale': 5.592138536402344, 'holidays_prior_scale': 6.511182330430257, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 12}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27900.1	0.249626	10353.8	1	
1	121					
a0	# evals	Notes			alpha	alph
	199	29287.1	0.170093	15654.2	1	
1	231					
a0	# evals	Notes			alpha	alph
	299	29654.8	0.0357783	5576.09	0.5332	0.53
32	341					
a0	# evals	Notes			alpha	alph
	399	29834.1	0.00774538	695.12	1	
1	451					
a0	# evals	Notes			alpha	alph
	499	30188.5	0.0164448	1748.53	0.365	0.3
65	563					
a0	# evals	Notes			alpha	alph
	599	30376	0.00254269	1049.56	1	
1	674					
a0	# evals	Notes			alpha	alph
	699	30563.8	0.0161645	1103.97	0.8046	0.80
46	783					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30923.4	0.148943	3978.25	1	
1	886					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31127.9	0.00321583	1958.93	1	
1	989					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31235.3	0.00465795	911.556	1	
1	1099					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31347.6	0.00698826	531.025	1	
1	1211					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31463.3	0.0500132	6240.76	1	
1	1320					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31609	0.0331742	3241.85	1	
1	1430					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31668.4	0.000571279	576.626	0.5711	0.57
11	1538					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31701	0.0319762	563.875	1	
1	1649					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31760.5	0.0140785	666.007	1	
1	1758					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31815.1	0.0177439	1545.88	1.045	0.10
45	1867					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31863.8	0.00492314	1211.83	0.7935	0.79
35	1978					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31883.7	0.00118792	439.348	1	
1	2086					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31899.4	0.00453763	1256.54	1	
1	2193					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	31912.6	0.0327964	963.228	1	
1	2299					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31952.6	0.114443	3008.44	1	
1	2405					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32039.1	0.101842	2755.69	1	
1	2512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32080.6	0.0371995	1073.27	1	
1	2622					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32115.1	0.00169641	724.942	1	
1	2729					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32167.4	0.037596	655.656	1	
1	2839					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32183	0.00509504	959.294	0.8487	0.84
87	2946					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32189.2	0.00566682	1008.91	1	
1	3054					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32191.8	0.00285845	137.116	1	
1	3160					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32195.1	0.00123736	212.296	1	
1	3275					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32196	0.00559142	152.926	1	
1	3384					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32197.2	0.00540864	594.238	1	
1	3494					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32199.6	0.00306649	293.879	1	
1	3602					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32200.6	0.000295537	272.947	0.3564	0.35

```

64      3710
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3499      32201.5      0.00314145      69.7555      1
1      3817
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3599      32201.7      8.2043e-05      36.203      1
1      3926
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3699      32201.9      1.79076e-05      34.6183      1
1      4036
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3799      32202.1      0.000455422      101.888      0.796      0.7
96      4145
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3899      32202.7      0.00937461      342.314      0.9849      0.98
49      4254
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3999      32204.4      0.00543355      771.887      1
1      4361
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4099      32204.9      0.000848037      133.857      1
1      4467
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4199      32205.3      0.00278105      107.221      1
1      4581
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4299      32205.6      0.000980465      268.618      0.188
1      4691
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4309      32205.7      0.000465633      16.2397      1
1      4702

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:23:44,041] Trial 21 finished with value: 72.20222780821705 and parameters: {'changepoint_prior_scale': 1.7839226054667092, 'changepoint_range': 0.8017440863995906, 'seasonality_prior_scale': 6.207997970981036, 'holidays_prior_scale': 1.1921747912201583, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28242.4	0.033384	9857.25	0.06379	
1	125					
a0	# evals	Notes				
	199	29348.3	0.0507828	6042.46	1	
1	238					
a0	# evals	Notes				
	299	29870.4	0.0173369	1208.7	1	
1	358					
a0	# evals	Notes				
	399	30236.5	0.0486796	2752.53	1	
1	476					
a0	# evals	Notes				
	499	30603.6	0.0116648	2743.82	1	
1	587					
a0	# evals	Notes				
	599	30763.5	0.0268653	9016.09	0.6191	0.061
91	705					
a0	# evals	Notes				
	699	31269.3	0.00289608	8229.26	0.2674	0.26
74	823					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31354.5	0.00790255	2305.34	1	
1	934					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31631.1	0.0357824	6435.17	1	
1	1043					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31759.9	0.0012923	1364.11	1	
1	1167					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31937.3	0.033932	4018.64	1	
1	1286					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32017.3	0.0101318	6880.37	0.9387	0.93
87	1402					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32078.3	0.0256842	12350.9	1	
1	1516					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32158.4	0.00057882	599.52	0.5074	0.50
74	1643					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32175.7	0.000464636	672.132	1	
1	1753					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32196.6	0.0169958	2790.17	1	
1	1874					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32206.6	0.0210764	598.058	1	
1	2000					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32242.2	0.0118765	1712.99	1	
1	2115					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32261.4	0.00572796	3455.05	1	
1	2240					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32267.7	0.00207915	551.103	1	
1	2357					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				


```

1      2099      32273.6    0.000953954      539.837      1
1      2480
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2199      32277.2    0.0015045      1886      0.01925
1      2603
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2299      32279.5    0.0141432      1411.57      1
1      2730
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2399      32280.8    0.00167849      249.866      10
1      2847
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2499      32282.6    0.00851234      692.17      1
1      2980
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
67     2599      32283.5    0.000619427      227.403      0.867      0.8
3107
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2699      32284.6    0.00247974      219.585      1
1      3230
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2799      32285    0.000537404      284.47      1
1      3349
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
84     2899      32285.2    0.000329149      185.987      0.9384      0.93
3472
a0 Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
1      2900      32285.2    0.00048726      42.4426      1
1      3473

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:23:58,216] Trial 22 finished with value: 70.95273962588189 and parameters: {'changepoint_prior_scale': 2.5555942487974828, 'changepoint_range': 0.8001538651023322, 'seasonality_prior_scale': 7.221895565177929, 'holidays_prior_scale': 0.23567540527093742, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	29014.5	0.00769319	11216.1	1	
1	130					
a0	# evals	Notes			alpha	alph
	199	29771.3	0.0509527	4245.4	1	
1	243					
a0	# evals	Notes			alpha	alph
	299	30418.3	0.0171879	10298	0.3834	0.38
34	358					
a0	# evals	Notes			alpha	alph
	399	31322.4	0.00918189	1591.88	1	
1	483					
a0	# evals	Notes			alpha	alph
	499	31592.9	0.00606842	2080.77	1	
1	606					
a0	# evals	Notes			alpha	alph
	599	32107.5	0.021515	7982.84	0.7037	0.070
37	727					
a0	# evals	Notes			alpha	alph
	699	32542.8	0.0258551	14955.2	1	
1	855					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	32664.7	0.00102342	628.977	1	
1	989					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32717.8	0.000379338	3338.69	0.07386	
1	1106					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32757.3	0.00443918	2021.61	1	
1	1225					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32800.3	0.0074613	1153.9	0.5544	0.55
44	1345					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32821.4	0.00828228	3890.71	0.4523	
1	1473					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32839.9	0.00112494	989.491	0.4218	
1	1596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32849.8	0.0020264	518.84	1	
1	1715					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32864	0.000488792	997.657	1	
1	1829					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32868.1	0.00395358	2891.33	1	
1	1960					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32885.7	0.0100707	1213.37	1	
1	2077					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32889.8	0.00260221	823.61	1	
1	2196					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32893.9	0.000699289	1489.75	1	
1	2320					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32898.2	0.000401121	633.861	1	
1	2442					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	32898.9	0.000278401	183.178	1	
	2561					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32899.8	0.0006822	862.921	1	
1	2678					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32900.3	8.00664e-05	194.837	1	
1	2796					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32900.6	0.000826628	385.28	1	
1	2913					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32900.8	8.57269e-05	80.7771	0.5079	
1	3031					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32902	0.00706373	2104.54	0.6123	0.61
23	3155					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32902.9	0.000310017	173.454	1	
1	3264					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2796	32903.1	6.24522e-05	52.5559	1	
1	3378					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:24:14,024] Trial 23 finished with value: 86.03288466739315 and parameters: {'changepoint_prior_scale': 2.50374230991758, 'changepoint_range': 0.8175111737675632, 'seasonality_prior_scale': 7.339918879037111, 'holidays_prior_scale': 1.887271843521036, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 8}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	29268.8	0.00634424	6665.01	0.6178	0.61
78	119					
a0	# evals	Notes				
	199	30131.4	0.055953	11656.4	1	
1	236					
a0	# evals	Notes				
	299	30899.5	0.00897726	5651.65	1	
1	359					
a0	# evals	Notes				
	399	32147.7	0.0180905	33301.2	0.2213	
1	474					
a0	# evals	Notes				
	499	32989.4	0.0171014	9236.67	1	
1	595					
a0	# evals	Notes				
	599	34056.8	0.00530621	29151.8	0.1523	0.015
23	709					
a0	# evals	Notes				
	699	34320.2	0.0103433	3891.34	1	
1	825					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	34449.6	0.00178591	4843.35	0.2121	0.21
21	941					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	34566.7	0.00239349	3425.48	1	
1	1087					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	34617.7	0.00679145	1693.77	1	
1	1209					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	34658.1	0.000550935	8426.6	0.1753	0.017
53	1324					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	34751.9	0.00140315	8072.84	0.2593	0.25
93	1456					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	34807.8	0.0097234	1194.26	0.4538	
1	1575					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	34833.4	0.0017805	1607.78	1	
1	1688					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	34857.5	0.000912517	559.753	0.5049	0.50
49	1807					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	34863.8	0.000275681	1289.89	0.5365	0.53
65	1934					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	34872.8	0.00238846	5485.03	0.1982	
1	2047					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	34880.4	0.00219272	614.552	1.624	0.16
24	2170					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	34889	0.00488307	611.92	0.4646	
1	2288					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	34893.7	0.00388219	1237.39	0.1214	
1	2406					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	34899.5	0.000392733	909.219	1	
	2535					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	34900.9	0.00066358	1963.63	1	
1	2657					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	34902.2	0.000292271	354.01	1	
1	2766					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	34906.9	0.0048679	1643.94	0.7057	0.70
57	2886					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	34911.6	0.000423352	490.885	1	
1	3008					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	34912.2	0.000196622	524.88	0.6818	0.68
18	3141					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	34913.8	0.0016437	555.169	1	
1	3262					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	34914.7	0.000917408	1923.34	0.7777	0.77
77	3375					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	34917	0.00333294	2233.65	1	
1	3498					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	34918.3	0.00159843	941.676	1	
1	3617					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	34920.1	0.00193757	249.42	1	
1	3739					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3151	34920.2	0.000526401	47.3296	1	
1	3799					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:24:30,111] Trial 24 finished with value: 98.52518756496778 and parameters: {'changepoint_prior_scale': 2.7359409046747833, 'changepoint_range': 0.8271058275993535, 'seasonality_prior_scale': 4.418833558054944, 'holidays_prior_scale': 0.8126464226310437, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28869.9	0.0283699	9872.18	0.07122	
1	123					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29601.6	0.0107022	6280.39	2.104	0.21
04	240					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30225.5	0.0268694	3244.97	0.9315	0.093
15	361					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30849.3	0.0200583	8509.69	0.4677	0.46
77	483					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31310.6	0.0021924	13245.7	0.7422	0.74
22	609					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31709.5	0.00232637	6378.24	0.1536	0.15
36	722					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	32077.4	0.00105048	4268.18	0.1643	
1	841					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	32194.8	0.000510233	8769.05	0.5391	0.53
91	960					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32284.2	0.0052163	9420.57	1	
1	1075					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32317.6	0.000323615	4582.91	0.02948	
1	1198					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32357.8	0.00776791	1657.72	1	
1	1315					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32372.5	0.0052713	2446.53	1	
1	1431					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32384.2	0.0271006	2232.94	1	
1	1550					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32395	0.00183535	643.178	1	
1	1667					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32403.8	0.00152608	1301.82	1	
1	1780					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32410.6	0.000558023	777.197	1	
1	1899					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32414.7	0.000158832	516.313	1	
1	2032					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32416.2	0.000391259	570.299	1	
1	2152					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32416.9	0.000112729	1289.91	0.4886	0.48
86	2276					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32417.3	5.86506e-05	272.191	1	
1	2390					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

2099      32417.9      0.00017783      253.904      0.4823      0.48
23  2517
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      32418.3      0.0023463      257.709      1
1  2626
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2288      32418.4      0.000145261      51.8081      1
1  2731

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:24:41,818] Trial 25 finished with value: 81.77094819295066 and parameters: {'changepoint_prior_scale': 1.4483109614604888, 'changepoint_range': 0.8132618586254985, 'seasonality_prior_scale': 8.016708934641002, 'holidays_prior_scale': 0.31502509737769946, 'seasonality_model': 'multiplicative', 'weekly_seasonality': 9, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      27580.5      0.018776      2754.36      1
1  120
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      28951.1      0.042431      2939.66      0.4557      0.45
57  230
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      29603.6      0.0107318      674.231      0.8366      0.83
66  340
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  399      29997      0.283567      6049.13      0.2321
1  451
  Iter      log prob      ||dx||      ||grad||      alpha      alph

```

a0	# evals	Notes				
	499	30578.6	0.0240128	6593.02	1	
1	572					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30858.7	0.000642453	571.985	1	
1	686					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31203.9	0.0144745	6747.13	1	
1	802					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31480.9	0.00569564	1395.59	1	
1	928					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31660.5	0.0189073	4461.82	0.3057	
1	1047					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31838.1	0.0480273	1751.3	1	
1	1162					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31967.8	0.0193211	1348.86	1	
1	1277					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32049.3	0.00525739	3241.44	0.6938	0.69
38	1395					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32087.7	0.0132099	1185.52	0.3217	
1	1517					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32141	0.0705058	2272.15	1	
1	1634					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32194.9	0.0108562	466.933	1	
1	1762					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32207.3	0.00883868	1154.65	1	
1	1883					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32212.8	0.000541399	958.557	0.02172	
1	2004					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

1799      32229.7      0.00404861      208.954      0.2579      0.025
79      2125
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
1899      32236.8      0.000985698      532.845      1
1      2251
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
1999      32239.8      0.000279824      154.509      1
1      2374
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2099      32243.8      0.00250642      767.368      0.5103
1      2496
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2199      32244.8      0.00010997      129.986      1
1      2612
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2299      32245.9      0.00237245      93.8876      1
1      2732
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2399      32247.6      0.00960209      506.79      0.6849      0.068
49      2854
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2499      32248.2      0.000528763      282.238      1
1      2969
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2599      32248.6      0.00695811      63.8511      1
1      3081
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2699      32248.8      0.00115591      228.049      1
1      3194
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2799      32249      0.00358717      407.408      1
1      3310
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2899      32249.1      8.19073e-05      55.2104      1
1      3428
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2976      32249.2      8.0624e-05      11.1251      1
1      3529

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:25:02,386] Trial 26 finished with value: 79.18663823111231 and parameters: {'changepoint_prior_scale': 2.206688384584698, 'changepoint_range': 0.810322472620599, 'seasonality_prior_scale': 6.780560334783147, 'holidays_prior_scale': 2.387586047563028, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 20}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27903.4	0.00219717	6852.67	0.5189	0.51
89	122					
a0	# evals	Notes				
	199	29453.5	0.0234449	5886.2	0.1521	
1	240					
a0	# evals	Notes				
	299	29977.6	0.0548811	1611.17	1	
1	359					
a0	# evals	Notes				
	399	30584.1	0.0265335	2579.45	1	
1	478					
a0	# evals	Notes				
	499	30755.1	0.00151075	1233.47	1	
1	592					
a0	# evals	Notes				
	599	31025.9	0.010936	4523.17	1	
1	718					
a0	# evals	Notes				
	699	31289.9	0.0462149	8148.21	1	
1	838					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31456	0.0156806	1090.22	0.4808	0.48
08	964					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31654.7	0.00422447	4368.12	1	
1	1088					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31814.1	0.0565895	14900.3	1	
1	1213					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31925.4	0.0190192	1714.28	1	
1	1337					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32120.6	0.0087678	3300.37	0.383	0.3
83	1462					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32147.4	0.0291841	1067.56	1	
1	1585					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32178.5	0.000921429	4223.52	0.3502	0.35
02	1702					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32188.9	0.00374072	577.953	1	
1	1822					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32203.1	0.0128034	5828.45	1	
1	1951					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32208.4	0.00778752	1311.12	0.4838	0.48
38	2070					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32215.1	0.00234102	355.757	1	
1	2180					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32219.7	0.000908754	494.281	0.7982	0.79
82	2296					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32224.5	0.0107317	2155.87	1	
1	2418					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32230.1	0.000163862	1039.58	0.603	0.6
03	2531					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32231.3	0.00123411	767.587	0.3085	
1	2650					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32232.2	0.000350361	772.311	0.2008	0.20
08	2769					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32235.6	0.00849346	4371.32	0.3442	
1	2888					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32239.9	0.00107999	285.802	1	
1	3013					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32243.2	0.00303031	199.192	0.9341	0.93
41	3137					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32244.1	0.000966271	110.235	1	
1	3262					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2783	32244.4	0.000130655	41.4316	1	
1	3366					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:25:15,489] Trial 27 finished with value: 72.34525460603558 and parameters: {'changepoint_prior_scale': 2.9601956782203604, 'changepoint_range': 0.8015742531747021, 'seasonality_prior_scale': 3.8530276539917105, 'holidays_prior_scale': 1.4622229557878474, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 1}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28934.1	0.0687675	8330.62	1	
1	122					
a0	# evals	Notes			alpha	alph
	199	30046.3	0.10354	2302.82	1	
1	243					
a0	# evals	Notes			alpha	alph
	299	31102	0.437791	7072.23	1	
1	359					
a0	# evals	Notes			alpha	alph
	399	32341.9	0.00182101	7158.5	0.3385	0.33
85	475					
a0	# evals	Notes			alpha	alph
	499	32959	0.00256593	4260.99	0.6527	0.65
27	606					
a0	# evals	Notes			alpha	alph
	599	33191.4	0.0297037	4661.1	1	
1	726					
a0	# evals	Notes			alpha	alph
	699	33824.6	0.00226569	1471.06	1	
1	845					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	34001.7	0.0215436	7011.48	1	
1	965					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	34223.5	0.0147811	3693.62	1	
1	1083					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	34314.5	0.0139091	4819.1	1	
1	1211					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	34376.2	0.00460232	2036.73	0.1102	
1	1333					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	34412.7	0.01127	15445.6	0.8445	0.84
45	1455					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	34506.5	0.0628027	3979.88	0.2658	
1	1574					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	34588	0.00314994	1557.74	1	
1	1694					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	34594.6	0.000367784	545.95	1	
1	1814					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	34613.4	0.00819969	2940.86	1	
1	1935					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	34630.1	0.00115343	931.473	1	
1	2056					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	34636.5	0.011685	812.748	1	
1	2167					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	34644.1	0.000749	1112.3	0.4158	0.41
58	2281					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	34649.7	0.000204866	170.713	1	
1	2404					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	34652.1	0.00557411	1167.03	1	
1	2529					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	34658.8	0.00866039	1323.92	1	
1	2642					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	34665	0.00186742	315.223	1	
1	2761					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	34668.5	0.00061826	163.997	1	
1	2876					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	34670.6	0.00418024	670.851	0.4329	
1	3018					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	34671	0.000453222	87.4551	0.9251	0.92
51	3141					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2684	34671.6	8.81512e-05	44.8791	1	
1	3237					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:25:28,483] Trial 28 finished with value: 96.85230854195889 and parameters: {'changepoint_prior_scale': 3.6087161857436905, 'changepoint_range': 0.8261008179797314, 'seasonality_prior_scale': 5.643882405569302, 'holidays_prior_scale': 0.8757582695613051, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

a0	# evals	Notes				
	99	28953.6	0.00487246	2026.41	1	
1	119					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	30398.1	0.0577289	3964.04	1	
1	245					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	32055.5	0.0117619	21184	0.7968	0.79
68	362					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	33286.4	0.0943624	24746.5	1	
1	477					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	34354.6	0.034019	20098.8	1	
1	600					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	34686.3	0.00396339	9000.71	0.2321	
1	719					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	34953.5	0.00815741	21003.8	1	
1	848					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	35069.8	0.00221725	2809.97	1	
1	970					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	35247.8	0.00216654	3773.69	1	
1	1099					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	35417.4	0.0064171	7564.83	1	
1	1216					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	35469.3	0.00200198	10930.7	1	
1	1342					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	35508.3	0.0117836	3562.23	1	
1	1464					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	35593.3	0.00855074	2800.25	1	
1	1586					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1399	35654.5	0.000316995	2124.9	0.6971	0.69
71	1708					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	35690.4	0.023643	7766.81	1	
1	1821					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	35716.2	0.000836199	2811.4	1	
1	1940					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	35726.1	0.000667622	1403.4	0.9356	0.93
56	2066					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	35733.2	0.000205036	875.334	1	
1	2181					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	35744.7	0.000205816	2200.46	1	
1	2293					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	35755	0.00370064	665.566	0.9803	0.98
03	2412					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	35759.5	0.00555813	5812.17	1	
1	2526					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	35764	0.00237793	802.324	1	
1	2638					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	35765.3	0.000116931	1224.35	1	
1	2755					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	35766.2	0.000173741	1308.29	1	
1	2867					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	35768.1	0.000956562	457.136	1	
1	2984					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	35770.7	0.00142739	855.279	0.6873	0.68
73	3100					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	35773.4	0.00113149	657.177	1	

```

1      3219
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2799      35774.9      0.00250141      439.373      1
1      3339
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2899      35775.1      0.00147454      356.11      1
1      3463
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2915      35775.1      0.000131522      61.6841      1
1      3480

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:25:44,785] Trial 29 finished with value: 104.53369739272792 and parameters: {'changepoint_prior_scale': 0.9218462538222922, 'changepoint_range': 0.830730058362945, 'seasonality_prior_scale': 6.876720031395829, 'holidays_prior_scale': 3.5360138526393228, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 9}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28833.8      0.0217052      4343.19      1
1      129
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      29632.1      0.0295645      2135.03      1
1      240
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      30448.2      0.00782079      4438.22      0.179      0.1
79      364
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	399	31296.1	0.0651988	10605.3	0.9773	0.97
73	478					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31667.4	0.0119775	6849.15	1	
1	606					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	32062	0.00505042	5811.74	0.2459	
1	732					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	32333.2	0.000935719	3775.64	1	
1	849					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	32543.8	0.0121975	1434.24	0.1451	
1	973					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32629.6	0.0308361	9478.28	1	
1	1102					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32684.1	0.000520505	1769.14	0.5157	0.51
57	1221					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32747.9	0.00437658	1767.02	1	
1	1345					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32813.2	0.0123636	1202.08	1	
1	1467					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32836.6	0.00609595	734.134	1	
1	1582					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32847.1	0.00534712	6263.47	1	
1	1704					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32867.2	0.00338112	6572.65	0.3159	0.031
59	1823					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32877.9	0.00524326	1394.41	1	
1	1940					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32881.2	0.000400221	881.017	1	

```

1      2064
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1799      32883.4      0.00133781      381.819      1
1      2184
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1899      32886.1      0.000572688      343.446      1
1      2297
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      32887.3      0.000201912      542.776      0.3253      0.32
53     2431
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      32888      0.00120118      1125.25      0.6496      0.64
96     2562
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      32890.2      0.00620476      3850.1      1
1      2675
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2299      32892.2      0.00166811      3732.25      0.1105
1      2795
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2399      32895      0.00409872      719.116      1
1      2925
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2499      32895.6      0.000388478      270.785      1
1      3055
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2565      32895.8      0.000155277      93.0051      1
1      3135

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:25:59,204] Trial 30 finished with value: 86.2258304733915 and parameters: {'changepoint_prior_scale': 0.27390404809951463, 'changepoint_range': 0.8179179047130781, 'seasonality_prior_scale': 8.948044895494602, 'holidays_prior_scale': 1.7855177196239467, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28080.1	0.0532543	7349.21	1	
1	121					
a0	# evals	Notes			alpha	alph
	199	29064.8	0.00454151	2808.9	0.415	0.4
15	223					
a0	# evals	Notes			alpha	alph
	299	29680.8	0.0276181	2609.89	1	
1	332					
a0	# evals	Notes			alpha	alph
	399	29908.5	0.0910795	6056.92	1	
1	439					
a0	# evals	Notes			alpha	alph
	499	30292.9	0.00693464	6290.07	0.1755	
1	548					
a0	# evals	Notes			alpha	alph
	599	30515.7	0.00639007	2113.64	1	
1	658					
a0	# evals	Notes			alpha	alph
	699	30746.1	0.167307	6118.04	0.8618	0.86
18	774					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31011.3	0.00710049	2843.07	1	
1	883					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31084.4	0.002798	571.021	1	
1	990					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31127.7	0.00508299	1100.2	1	
1	1098					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31335.1	0.00576869	1561.31	0.8746	0.87
46	1204					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31373.7	0.00669071	570.807	1	
1	1315					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31440.1	0.0159601	571.993	1	
1	1425					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31466.3	0.012157	836.973	1	
1	1534					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31498.8	0.00113834	291.718	0.7791	0.77
91	1645					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31565.6	0.000460463	271.331	1	
1	1750					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31617.1	0.00209995	1106.49	0.9729	0.97
29	1863					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31657.5	0.00592208	765.6	1	
1	1969					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31825.7	0.0656707	2055.02	0.446	0.4
46	2077					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32044.2	0.0108143	2064.92	1	
1	2186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32091.4	0.0044285	1072	1	
1	2296					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32112.1	0.000653736	147.794	1	
1	2404					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32114.6	0.0018692	419.116	0.5798	0.57
98	2511					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32118.3	0.000938238	246.306	1	
1	2622					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32132.9	0.00729557	913.814	0.9896	0.98
96	2726					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32170.8	0.0129995	827.016	1	
1	2830					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32176.9	0.0107072	3297.32	1	
1	2939					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32180.2	0.000691354	173.043	1	
1	3046					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32180.8	0.00180918	283.06	1	
1	3154					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32184.8	0.0354854	903.08	1	
1	3267					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32188.7	0.00106555	223.342	0.3734	
1	3374					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32189.2	0.00827316	398.532	1.553	0.15
53	3481					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32190.2	0.00119488	199.939	0.6626	0.66
26	3596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32191.3	0.000569533	296.237	0.575	0.5

75	3701						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3499	32191.7	0.00043482	183.148	1		
1	3805						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3599	32192.6	0.0133426	451.677	1		
1	3912						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3699	32193.3	0.00132645	109.171	1		
1	4024						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3799	32193.7	0.000570378	165.555	1		
1	4135						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3899	32193.9	0.000228402	185.424	0.09864		
1	4241						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3999	32194.4	3.9637e-05	115.792	0.2877	0.28	
77	4353						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4099	32195.2	0.000118005	65.6865	1		
1	4462						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4199	32195.4	0.00114088	93.8071	1		
1	4570						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4299	32195.7	0.000651551	44.9353	0.3734	0.82	
57	4678						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4399	32196.3	0.00271237	137.66	1		
1	4786						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4499	32197.2	0.00153792	112.464	1		
1	4899						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4599	32198.4	0.000457181	77.9554	0.7973	0.79	
73	5011						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4699	32198.9	0.00192436	136.125	1		
1	5119						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4766	32199.2	7.18965e-05	10.4678	0.7619	0.76
19	5190					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:26:19,183] Trial 31 finished with value: 73.00237942916243 and parameters: {'changepoint_prior_scale': 1.706055113104271, 'changepoint_range': 0.8026885547650365, 'seasonality_prior_scale': 6.385686854528521, 'holidays_prior_scale': 0.2015727533393228, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28173.6	0.139252	12071.4	1	
1	127					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29242	0.0527356	2275.24	1	
1	231					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29681.9	0.0579765	3407.36	1	
1	342					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29937.4	0.115767	3228.03	1	
1	449					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30263.6	0.0683384	5110.36	1	
1	561					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30616.6	0.0253249	996.976	1	

1	671					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30718.3	0.0255545	4739.76	0.2849	
1	788					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30770.9	0.00258828	682.322	1	
1	898					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31023.5	0.0685945	3418.44	1	
1	1004					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31307.1	0.0385556	1498.92	1	
1	1114					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31653.5	0.00237046	976.703	1	
1	1227					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31718.7	0.0128208	886.959	1	
1	1337					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31830.1	0.0093709	580.38	0.8848	0.88
48	1445					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31926	0.040151	1444.53	1.201	0.12
01	1555					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31968.7	0.0374701	3395.45	1	
1	1667					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32007.2	0.000400589	1599.18	0.06643	
1	1779					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32043.7	0.0333726	3036.49	0.6391	0.63
91	1889					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32116.1	0.00331028	959.188	1	
1	2000					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32161.9	0.00121339	131.572	1	
1	2112					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32168.7	0.000189794	354.344	0.3728	0.37
28	2220					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32175.7	0.00309613	236.149	1	
1	2337					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32179.9	0.011903	963.029	1	
1	2448					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32185.5	0.00124408	260.725	1	
1	2553					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32191.3	0.00602007	469.6	1	
1	2660					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32194.1	0.00151105	320.827	1	
1	2772					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32199.8	0.0241437	578.356	1	
1	2878					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32207.2	0.000838648	316.642	0.2601	0.26
01	2988					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32211.5	0.00176558	164.113	1	
1	3099					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32215.6	0.000397348	734.582	0.5686	0.56
86	3208					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32216.2	0.000415924	358.009	1	
1	3318					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32217.5	0.00393264	152.872	0.2542	
1	3427					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32219.8	0.0029612	412.939	1	
1	3534					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
3299 32222 0.000171452 46.8342 1
1 3641
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3399 32223.3 0.000366556 77.1878 1
1 3752
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3499 32223.5 0.00669456 360.357 1
1 3857
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3599 32225.4 0.00476107 248.188 1
1 3973
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3699 32227 0.00147853 196.745 1
1 4082
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3799 32228.9 0.00932619 208.511 0.5167 0.51
67 4191
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3899 32229.9 6.73129e-05 39.8969 1
1 4301
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3999 32230.7 0.00222904 173.995 0.4966
1 4407
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4001 32230.7 0.00106166 18.2223 0.9903 0.99
03 4409

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:26:36,587] Trial 32 finished with value: 71.26151363487192 and parameters: {'changepoint_prior_scale': 2.2014073681307287, 'changepoint_range': 0.8003875276202966, 'seasonality_prior_scale': 5.8577435336380566, 'holidays_prior_scale': 0.7355044312949731, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28141.3	0.122106	10928.1	0.4125	0.93
69	119					
a0	# evals	Notes				
	199	29088	0.102703	10405.2	1	
1	227					
a0	# evals	Notes				
	299	29784.3	0.0220597	1749.62	0.42	0.80
25	335					
a0	# evals	Notes				
	399	30095.6	0.0871539	11267.7	1	
1	440					
a0	# evals	Notes				
	499	30680.7	0.0101619	1426.93	0.989	0.9
89	553					
a0	# evals	Notes				
	599	30774.3	0.0117575	558.254	1	
1	657					
a0	# evals	Notes				
	699	30913.4	0.00046515	1642.38	0.647	0.6
47	765					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31008.8	0.0321769	4452.93	1	
1	880					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31170	0.00122407	975.817	0.4655	0.46
55	991					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31221.1	0.0123769	1388.65	1	
1	1101					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31275.5	0.0158709	978.815	1	
1	1209					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31322.6	0.00983214	1137.85	1	
1	1319					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31400.9	0.000314383	469.015	1	
1	1423					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31429.5	0.0370109	1062.17	1	
1	1532					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31471.3	0.00233906	1976.26	0.4151	0.41
51	1641					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31516.6	0.00173033	662.393	1	
1	1742					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31623.3	0.00534905	968.569	1	
1	1848					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31687.8	0.0239007	857.619	1	
1	1957					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31699.5	0.00299436	845.034	1	
1	2070					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31914.9	0.0377758	1716.36	1	
1	2181					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32050.8	0.0220856	1973.9	1	
1	2288					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32095.6	0.0032503	582.494	0.2693	
1	2399					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32100.3	0.00248784	124.559	1	
1	2509					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32101.5	0.000271798	395.825	0.2587	0.25
87	2623					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32102.9	0.0011662	122.964	1	
1	2730					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32109	0.000109862	283.757	0.4018	0.40
18	2849					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32120.4	0.0515624	837.699	1	
1	2957					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32137.5	0.00302501	443.876	1	
1	3068					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32147.2	0.000377655	321.468	1	
1	3181					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32148.6	0.000431322	140.479	1	
1	3288					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32149.5	0.000492162	156.815	0.4452	
1	3399					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32150	0.00621332	312.948	1	
1	3513					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32151.1	0.00889409	312.615	1	
1	3623					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32153.7	0.00976959	1741.84	0.383	0.3

```

83      3730
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3499      32155.9      2.17162e-05      60.8527      1
1      3844
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3599      32156.2      0.000176715      51.2245      1
1      3954
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3699      32156.7      0.00405679      276.838      1
1      4067
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3799      32158.4      2.7185e-05      82.7154      0.1809      0.18
09      4178
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3899      32158.8      0.00233424      90.1475      1
1      4283
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 3999      32160.1      0.00219581      104.064      0.5218      0.52
18      4397
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4099      32163.5      0.000510376      513.107      0.5514      0.55
14      4502
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4199      32164.9      0.000345315      76.7473      1
1      4607
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4299      32165.4      5.81019e-05      42.4036      1
1      4714
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4399      32165.6      0.00013648      72.0771      1
1      4823
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
 4414      32165.6      1.62009e-05      11.6493      0.4132      0.78
64      4840

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:26:57,050] Trial 33 finished with value: 77.85175220356084 and parameters: {'changepoint_prior_scale': 2.3115866990223624, 'changepoint_range': 0.8088152548723554, 'seasonality_prior_scale': 5.267145829748193, 'holidays_prior_scale': 2.6085267728820676, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28716.3	0.086946	3519.92	1	
1	127					
a0	# evals	Notes			alpha	alph
	199	29538.2	0.0229693	2940.63	1	
1	242					
a0	# evals	Notes			alpha	alph
	299	30030.8	0.0505069	2465.93	1	
1	365					
a0	# evals	Notes			alpha	alph
	399	30739.3	0.0690326	2846.41	1	
1	478					
a0	# evals	Notes			alpha	alph
	499	31108.8	0.00165095	1009.69	1	
1	595					
a0	# evals	Notes			alpha	alph
	599	31241.5	0.0960109	1414.8	1	
1	706					
a0	# evals	Notes			alpha	alph
	699	31411.8	0.0205288	1476.38	1	
1	822					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31554.3	0.0128425	3387.23	1	
1	943					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31759.6	0.0208858	2193.66	1	
1	1062					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32046.2	0.0094474	2231.7	0.3446	0.34
46	1181					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32086.8	0.0028266	622.369	1	
1	1302					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32118.5	0.0031243	639.957	0.7545	0.75
45	1415					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32144	0.0169731	2854.81	1	
1	1541					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32176	0.00489499	1370.58	1	
1	1660					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32187.9	0.00303868	2217.27	0.5642	0.56
42	1774					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32200	0.00073897	163.265	1	
1	1899					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32206	0.00102642	492.657	0.2531	
1	2015					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32211.7	6.44231e-05	224.083	0.1501	0.15
01	2144					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32218.2	0.00281398	566.832	1	
1	2271					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32222.7	0.00314874	363.781	1	
1	2395					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

1      2099      32224.6    0.000195234      82.804      1
1      2523
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2199      32228.2    0.0123223      266.39      1
1      2639
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2299      32230.8    0.000170229      109.03      1
1      2763
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2399      32231.3    0.000788915      361.077      1
1      2884
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2499      32231.8    0.000469944      169.756      1
1      3003
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2599      32232.4    0.000386067      227.667      1
1      3117
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2699      32234.2    0.000128677      190.121      0.8604      0.086
04      3240
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2799      32234.8    0.000204419      219.448      0.3938      0.39
38      3354
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals Notes
2837      32234.9    0.000226471      25.6989      1
1      3396

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:27:10,866] Trial 34 finished with value: 78.8760384294309 and parameters: {'changepoint_prior_scale': 2.0394691988477884, 'changepoint_range': 0.8100930603543737, 'seasonality_prior_scale': 7.411088231249845, 'holidays_prior_scale': 0.8815259499700645, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27999.4	0.00264305	2152.91	0.8311	0.83
11	118					
a0	# evals	Notes				
	199	29231	0.0166045	5204.65	0.1599	
1	228					
a0	# evals	Notes				
	299	29822.7	0.0112856	6451.62	0.6286	0.62
86	336					
a0	# evals	Notes				
	399	30049.5	0.0240308	3385.85	0.4349	
1	454					
a0	# evals	Notes				
	499	30450.4	0.0917818	9240.3	1	
1	565					
a0	# evals	Notes				
	599	30592.6	0.0465233	5938.05	1	
1	673					
a0	# evals	Notes				
	699	30795.8	0.114021	3550.34	1	
1	782					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31078.1	0.00295712	1828.25	1	
1	887					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31162	0.00186303	4745.3	0.1781	0.17
81	998					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31235.9	0.0123831	1147.17	1	
1	1106					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31763.2	0.0949731	1145.86	1	
1	1216					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31962.3	0.0846281	1975.99	0.9823	0.098
23	1329					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32008	0.00216674	1428.62	1	
1	1440					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32054.4	0.0169631	2623.76	1	
1	1546					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32076.6	0.00141014	646.629	1	
1	1651					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32088.4	0.0581774	4973.07	1	
1	1762					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32105.3	0.00365492	938.273	1	
1	1872					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32125.3	0.00361823	585.282	0.4666	0.46
66	1980					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32132.6	0.000474161	200.332	1	
1	2087					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32136.3	0.0030579	221.772	1	
1	2193					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32138.8	0.000875126	453.57	1	
1	2302					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32144.2	0.0400801	1182.5	1	
1	2409					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32157.3	0.00526587	528.614	0.7538	0.75
38	2519					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32160.1	0.00350691	770.499	1	
1	2627					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32163.2	0.00473605	264.565	1	
1	2741					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32165.6	0.000747145	117.011	1	
1	2848					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32167.1	3.37363e-05	54.7846	0.6676	0.66
76	2955					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32168.5	0.00548071	281.246	0.9919	0.99
19	3063					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32170.5	0.0111734	542.484	0.9588	0.95
88	3169					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32172.3	0.00167504	325.678	1	
1	3283					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32172.8	8.04487e-05	108.386	1	
1	3388					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32173.3	0.000328161	135.327	0.9804	0.98
04	3498					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32173.7	0.000269763	70.1645	1	
1	3610					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32174.4	0.00074223	88.0614	1	

```

1      3718
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3446      32174.7      1.60294e-05      18.1932      1
1      3774

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:27:29,184] Trial 35 finished with value: 77.60882051346078 and parameters: {'changepoint_prior_scale': 2.86246279956203, 'changepoint_range': 0.8087470973156238, 'seasonality_prior_scale': 8.428992190662372, 'holidays_prior_scale': 4.406344235014378, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 12}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28762.6      0.225836      8143.05      1
1      129
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      29750.7      0.0141351      1572.86      1
1      247
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      30529      0.0149689      2946.51      1
1      364
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  399      31346.7      0.0665516      3618.72      0.9067      0.90
67      486
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  499      31899.9      0.0294801      1944.37      1
1      606
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	599	32664.6	0.00660088	2796.55	1	
1	735					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	32972.6	0.0572561	14171	1	
1	852					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	33160.4	0.00532691	1175.77	1	
1	966					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	33301.5	0.00239591	3498.37	0.07831	
1	1091					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	33390.8	0.00156643	2086.85	0.5164	
1	1215					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	33417.3	0.0298684	3428.75	1	
1	1330					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	33448.9	0.00389251	653.4	0.2557	
1	1448					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	33497.6	0.00261601	1568.58	1	
1	1567					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	33514.8	0.000170418	469.598	1	
1	1692					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	33529.5	0.00805421	1048.27	1	
1	1810					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	33541.5	0.00379431	830.234	1	
1	1928					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	33550.8	0.0224775	2484.83	1	
1	2049					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	33559	0.00365876	997.976	1	
1	2167					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	33568.2	0.00215416	1988.67	0.01371	

```

1      2286
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      33575      0.0125574      3735.76      1
1      2403
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      33578.5      0.00190168      361.939      1
1      2524
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      33580.2      0.000589632      209.426      1
1      2646
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2299      33581.5      0.00120108      509.548      1
1      2765
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2399      33582.7      0.00367574      197.866      1
1      2888
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2499      33583.2      0.000628646      96.3436      0.2311
1      3007
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2599      33583.8      0.00342834      277.138      0.5085
1      3128
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2699      33584.6      0.000213833      74.5803      1
1      3244
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2799      33584.9      9.69512e-05      25.1452      1
1      3363
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2899      33585.3      0.00025622      257.575      0.3044
1      3490
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2999      33585.5      0.00194928      177.268      1
1      3613
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3061      33585.7      0.000208351      34.0606      1
1      3687
Optimization terminated normally:
  Convergence detected: relative gradient magnitude is below tolerance

```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:27:43,795] Trial 36 finished with value: 90.69263413076787 and parameters: {'changepoint_prior_scale': 2.4477157264138936, 'changepoint_range': 0.8216014164877888, 'seasonality_prior_scale': 9.526372243247057, 'holidays_prior_scale': 2.8283175609538613, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 5, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27261.6	0.108267	10230.6	1	
1	123					
a0	# evals	Notes			alpha	alph
	199	29084.9	0.00998705	1306.1	1	
1	239					
a0	# evals	Notes			alpha	alph
	299	29468.3	0.00455721	2868.77	0.2756	
1	352					
a0	# evals	Notes			alpha	alph
	399	29687.7	0.126285	14092.1	0.1607	
1	457					
a0	# evals	Notes			alpha	alph
	499	30295.3	0.0285752	3600.74	1	
1	569					
a0	# evals	Notes			alpha	alph
	599	30609.6	0.0142262	5081.74	0.6459	0.64
59	681					
a0	# evals	Notes			alpha	alph
	699	30703.1	0.00190785	2195.58	0.4408	0.44
08	788					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30896	0.00578347	6093.47	0.3599	0.35
99	901					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31064.3	0.0378019	1628.69	1	
1	1006					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31313.7	0.0144382	2439.84	1	
1	1115					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31405.3	0.00539881	2451.45	0.2138	
1	1227					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31433.3	0.000786381	659.443	1	
1	1332					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31527.2	0.0067055	1833.43	1	
1	1442					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31591.8	0.00249873	917.909	0.732	0.7
32	1547					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31634.1	0.00444587	456.553	0.9177	0.91
77	1656					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31696.6	0.00168794	935.642	1	
1	1763					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31727.7	0.00223691	799.308	1	
1	1875					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31773.8	0.00594589	1764.71	0.2531	
1	1981					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31839.8	0.000983243	500.424	1	
1	2090					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31893.2	0.0310159	1560.84	1	
1	2200					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	31956.3	0.000799739	359.562	1	
1	2315					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31977.9	0.0220917	1273.61	1	
1	2423					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32025.6	0.0341111	909.329	1	
1	2536					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32048.3	0.00608727	1004.05	1	
1	2645					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32060.4	0.00200616	712.023	0.4448	0.44
48	2760					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32074.7	0.00173258	776.312	1	
1	2872					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32098.8	0.0539938	3375.49	1	
1	2978					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32113.7	0.00406897	667.674	1	
1	3084					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32122.3	0.000622783	410.464	1	
1	3197					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32130.4	0.0043836	684.152	1	
1	3306					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32142	0.0013102	415.602	0.8714	0.87
14	3415					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32164.3	0.00589083	1185.93	1	
1	3522					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32178.1	0.000930567	513.565	0.6992	0.69
92	3636					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32182.8	0.00098064	818.676	0.3731	0.37

```

31      3749
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      32184.5      0.000527417      147.611      1
1      3853
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      32186.6      0.000850143      113.06      1
1      3958
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      32188.3      0.000978891      183.863      1
1      4068
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      32191.1      0.00114915      86.3016      1
1      4174
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      32191.7      0.00387448      390.931      1
1      4282
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3999      32193.8      0.000826471      224.1      0.807      0.8
07      4396
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4099      32196.7      0.00704832      458.035      1
1      4504
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4199      32205.3      0.0332833      827.441      1
1      4614
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4299      32218.6      0.00374572      162.135      1
1      4724
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4399      32220.7      0.00487341      905.332      0.5198
1      4832
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4499      32221      5.73824e-06      97.9621      0.5528      0.55
28      4937
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4511      32221      4.3013e-05      19.5614      1.093      0.10
93      4952
Optimization terminated normally:
  Convergence detected: relative gradient magnitude is below tolerance

```



```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:28:04,960] Trial 37 finished with value: 71.09009938208999 and parameters: {'changepoint_prior_scale': 1.506763631478734, 'changepoint_range': 0.8000578575993061, 'seasonality_prior_scale': 4.184353929747552, 'holidays_prior_scale': 0.7064428305144731, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 7}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	30697	0.00910911	3990.38	1	
1	125					
a0	# evals	Notes			alpha	alph
	199	31936	0.019225	3026.12	1	
1	246					
a0	# evals	Notes			alpha	alph
	299	33627.4	0.00381956	7769.26	0.1703	
1	375					
a0	# evals	Notes			alpha	alph
	399	36132.6	0.0184899	33051.8	1	
1	494					
a0	# evals	Notes			alpha	alph
	499	36876.9	0.00605994	4801.27	0.5807	0.58
07	611					
a0	# evals	Notes			alpha	alph
	599	37860.6	0.204333	41259.5	1	
1	727					
a0	# evals	Notes			alpha	alph
	699	38500.1	0.0028198	12736.1	1	
1	851					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	39208.7	0.00263338	22870.6	1	
1	962					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	39475.3	0.00330786	3716.44	1	
1	1086					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	39717.2	0.0150542	4512.04	1	
1	1205					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	39849.2	0.0022082	3876.08	0.8146	0.081
46	1330					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	39921.1	0.00218041	1800.99	1	
1	1445					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	39951.8	0.000420362	2581.91	1	
1	1565					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	39979.4	0.000480931	5446.68	0.0285	
1	1682					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	39986.2	0.000425359	821.705	1	
1	1797					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	39995.4	0.00851232	3914.31	1	
1	1920					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	40005.4	0.00215609	1621.25	1	
1	2034					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	40016.5	0.000702532	667.469	1	
1	2152					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	40022.6	0.00331621	5506.52	1	
1	2288					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	40024.6	7.2284e-05	927.338	0.4928	0.49
28	2404					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	40025.7	5.71528e-05	245.579	0.2826	
	2522					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	40027.1	0.000100416	1425.35	0.4318	0.43
18	2643					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	40028.3	2.64442e-05	1278.02	0.1388	0.13
88	2763					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	40029.6	0.0035143	2486.44	1	
1	2878					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	40030.5	0.000284014	185.033	1	
1	2986					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	40030.7	0.000125431	133.249	1	
1	3104					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2676	40031	8.62699e-05	103.493	0.3195	
1	3205					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:28:19,277] Trial 38 finished with value: 139.5635366623545 and parameters: {'changepoint_prior_scale': 0.9160232426396209, 'changepoint_range': 0.8833432545136238, 'seasonality_prior_scale': 3.6106880963007795, 'holidays_prior_scale': 1.7503455514891018, 'seasonality_model': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 8}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

a0	# evals	Notes				
	99	27744.2	0.989644	11715.6	1	
1	122					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	28331.7	0.0335946	2703.09	1	
1	226					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29139.5	0.00570721	787.99	4.702	0.47
02	332					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29702.7	0.0472408	2030.36	1	
1	441					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	29972.9	0.123712	8104.79	1	
1	544					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30172.5	0.0317127	2493.26	1	
1	648					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30758.5	0.0393457	8511.47	1	
1	761					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31028.3	0.0473919	4442.57	1	
1	877					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31187.7	0.0365926	1836.36	0.8279	0.82
79	992					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31386.1	0.00801309	863.129	1	
1	1113					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31728.5	0.102402	2863.47	0.7492	0.74
92	1235					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31883.6	0.00318531	1191.02	0.2245	0.22
45	1354					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31975.6	0.000875312	867.731	1	
1	1472					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1399	32005.6	0.0171973	3851.04	1	
1	1588					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32042.4	0.0067442	402.01	0.3384	
1	1708					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32086.6	0.00135877	671.228	1	
1	1835					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32094.5	0.00218359	1129.95	1	
1	1960					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32101.5	0.00593571	760.278	1	
1	2074					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32129.5	0.149519	962.678	1	
1	2206					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32158.4	0.000598239	775.613	0.1614	
1	2336					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32163.9	0.00148854	463.525	0.2483	0.47
43	2451					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32171.7	0.00478905	2253.34	0.041	
1	2587					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32176	0.00902429	1151.76	1	
1	2707					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32179.6	0.00290878	159.132	2.631	0.26
31	2831					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32183.3	0.00352816	896.443	0.5222	0.52
22	2948					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32184.7	0.00424028	437.787	1	
1	3073					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32185.8	0.00226615	610.955	1	

```

1      3190
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2799      32186.5      6.5743e-05      246.457      0.07063
1      3305
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2899      32187.4      0.00784139      578.972      0.3709
1      3428
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2999      32187.9      0.000369201      124.151      1
1      3557
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3099      32188.4      0.000195915      50.8495      1
1      3684
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3199      32188.6      3.48218e-05      355.689      0.5329      0.53
29      3798
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3273      32188.7      5.87357e-05      24.5178      0.8744      0.87
44      3889

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:28:38,075] Trial 39 finished with value: 75.81254281170973 and parameters: {'changepoint_prior_scale': 1.477142686996449, 'changepoint_range': 0.8064153364118251, 'seasonality_prior_scale': 4.238795515592575, 'holidays_prior_scale': 6.1544056266119105, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 9, 'yearly_seasonality': 9}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	99	28293.5	0.018997	2571.7	1	
1	119					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29274.8	0.0673861	3287.44	0.4748	
1	230					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29627.2	0.0243011	2430.59	1	
1	343					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30152.3	0.0167858	4013.02	0.5547	0.55
47	450					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30611.1	0.00713069	1349.54	0.8594	0.85
94	557					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30957.1	0.000686273	611.806	1	
1	662					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31112.9	0.00120797	471.84	0.7378	0.73
78	765					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31212.4	0.00376981	1364.02	1	
1	873					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31535.1	0.0172245	9113.09	0.222	0.2
22	982					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31721.1	0.00254608	1358.18	0.4802	0.48
02	1090					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31756.7	0.00161455	1086.71	1	
1	1196					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31829.7	0.000957623	426.973	0.2004	
1	1306					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31851	0.0115608	597.425	1	
1	1423					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31926.9	0.000551774	721.687	1	

1	1528						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1499	31975.8	0.002585	949.234	1		
1	1635						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1599	32056.5	0.275451	3602.38	1		
1	1740						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1699	32175	0.00940349	1487.94	1		
1	1850						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1799	32207.8	0.0011977	868.564	0.4684		
1	1962						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1899	32223.9	0.00299627	836.703	1		
1	2070						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1999	32236.8	0.0142038	292.933	1		
1	2177						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2099	32262.4	0.0110253	1472.89	1		
1	2286						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2199	32289.3	0.0162661	1504.44	1		
1	2396						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2299	32299.5	0.000190315	292.981	0.9369	0.93	
69	2513						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2399	32303.2	0.0012899	159.218	1		
1	2622						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2499	32305	0.000216525	247.06	0.2434	0.24	
34	2732						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2599	32306.5	0.0104513	404.401	1		
1	2838						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2699	32310.7	0.00460773	574.256	1		
1	2947						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32313.3	0.000146809	56.1318	0.9792	0.97
92	3052					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32314.1	0.000871207	306.064	1	
1	3159					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32315.6	0.000702959	398.862	0.2767	0.27
67	3275					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32316.6	0.000103431	116.116	0.8982	0.89
82	3386					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32318.6	0.00182572	198.516	1	
1	3492					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32319.1	0.000482114	170.045	1	
1	3601					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32319.6	0.00293646	324.156	0.1411	
1	3708					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32320	6.98982e-05	64.8793	1	
1	3819					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3522	32320.1	6.48475e-05	14.9516	1	
1	3845					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:28:56,726] Trial 40 finished with value: 82.13340841519555 and parameters: {'changepoint_prior_scale': 0.4514884142438288, 'changepoint_range': 0.8141916224394204, 'seasonality_prior_scale': 2.8010083482027963, 'holidays_prior_scale': 7.545264979587378, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 11}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27219.3	0.026896	6876.4	1	
1	123					
a0	# evals	Notes			alpha	alph
	199	29085.1	0.0188725	7651.25	0.1371	
1	236					
a0	# evals	Notes			alpha	alph
	299	29627.5	0.0894275	8363.16	0.4713	
1	345					
a0	# evals	Notes			alpha	alph
	399	29916	0.0086096	2252.8	1	
1	455					
a0	# evals	Notes			alpha	alph
	499	30122.3	0.00982312	3648.98	1	
1	565					
a0	# evals	Notes			alpha	alph
	599	30511.8	0.0203286	2097.69	1	
1	679					
a0	# evals	Notes			alpha	alph
	699	30658.4	0.00434747	879.274	1	
1	785					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30770.3	0.0240614	1857.89	1	
1	896					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30937.9	0.00647388	3407.2	0.3022	0.90
08	1011					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31177.5	0.0291762	3610.53	1	
1	1118					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31276.5	0.00236483	701.808	1	
1	1228					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31299	0.00272374	2075.31	0.1916	
1	1337					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31458.6	0.00926611	2573.8	1	
1	1447					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31546.4	0.00861976	762.584	1	
1	1554					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31800.8	0.246845	8465.92	0.4323	
1	1659					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31933.5	0.0509669	4054.3	1	
1	1767					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31963.9	0.00569948	1940.51	0.3597	0.35
97	1879					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31972.4	0.00769067	1714.77	0.1332	
1	1988					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31989.1	0.030231	636.74	1	
1	2095					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32034.9	0.0141392	3127.53	0.7272	0.72
72	2201					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32082.9	0.00294891	497.651	0.9385	0.93
85	2308					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32086.1	0.00195791	625.52	1	
1	2415					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32094.3	0.000685551	1508.71	0.5623	0.56
23	2526					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32096.9	0.000587287	162.323	1	
1	2635					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32112.9	0.00656029	583.095	1	
1	2749					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32135.9	0.00295413	693.901	0.3645	
1	2861					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32140.9	0.000539444	182.503	1	
1	2971					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32142.1	0.00202634	446.798	1	
1	3079					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32149.4	0.00477664	637.673	1	
1	3184					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32150.5	0.000887285	560.132	0.3498	
1	3296					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32153.8	0.00719548	1042.3	1	
1	3405					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32155.4	0.00845507	134.613	1	
1	3518					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32158.9	0.0111094	462.952	1	
1	3631					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32173	0.000134282	191.565	1	

```

1      3734
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      32183.9      0.00228026      253.038      0.8332      0.83
32      3847
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      32189.2      0.00779526      1864.62      1
1      3962
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      32192.6      0.0171918      281.877      1
1      4065
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      32194.3      0.00214285      121.104      1
1      4176
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      32196.4      0.00129203      190.073      1
1      4291
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3999      32196.9      0.0012097      143.802      1
1      4403
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4099      32197.1      4.7743e-05      20.8149      1
1      4510
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4104      32197.1      0.000106355      12.208      1
1      4516

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:29:15,043] Trial 41 finished with value: 71.20571329413664 and parameters: {'changepoint_prior_scale': 1.1236401096033843, 'changepoint_range': 0.800223029659959, 'seasonality_prior_scale': 4.985396242597183, 'holidays_prior_scale': 0.619906444251507, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28164	0.0253102	17745.9	0.5057	
1	115					
a0	# evals	Notes				
	199	29335.5	0.0207327	9263.09	1	
1	226					
a0	# evals	Notes				
	299	29573.1	0.0132388	2021.07	1	
1	340					
a0	# evals	Notes				
	399	29915.4	0.105848	5851.52	1.3	0.
13	454					
a0	# evals	Notes				
	499	30288.6	0.073955	6005.08	1	
1	564					
a0	# evals	Notes				
	599	30706.6	0.0486658	2589.44	0.2697	
1	674					
a0	# evals	Notes				
	699	30910.3	0.0284987	1858.8	1	
1	782					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31046.1	0.00269397	431.304	1	
1	888					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31189.5	0.0109697	5429.6	0.2441	0.24
41	996					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31470.3	0.0408398	4454.75	1	
1	1108					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31594.2	0.0357904	2030.38	1	
1	1216					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31725.5	0.00384764	1755.84	1	
1	1322					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31912.3	0.0337172	836.041	1	
1	1432					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31956.8	0.00100804	369.633	1	
1	1543					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31969.7	0.00281679	1297.17	1	
1	1649					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31987.4	0.00195085	2152.02	0.7131	0.71
31	1760					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31998.3	0.00159013	369.532	1	
1	1871					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32008.7	0.0119274	395.901	1	
1	1981					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32043	0.00229532	453.462	1	
1	2086					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32052.3	0.00261917	497.825	1	
1	2193					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32058.3	0.00143139	385.878	0.6154	0.61
54	2301					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32065.9	0.000286785	137.875	1	
1	2411					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32070.8	0.00246598	280.68	1	
1	2523					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32073.7	0.00108498	307.553	1	
1	2634					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32079.3	0.00024723	655.657	0.2472	0.24
72	2742					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32082.2	0.00014891	54.3571	1	
1	2851					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32083.8	0.000993392	265.767	0.5007	0.50
07	2965					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32086.1	0.00165396	153.26	1	
1	3071					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32093.7	0.043747	954.038	1	
1	3180					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32106.9	0.0466056	459.852	1	
1	3290					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32116.2	0.0253554	2045.19	1	
1	3400					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32119.7	0.000100325	84.5825	1	
1	3507					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32120.2	0.000339562	29.8229	1	
1	3619					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3389	32120.5	5.20612e-05	13.6612	1	

1 3715

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:29:31,321] Trial 42 finished with value: 75.49701155480794 and parameters: {'changepoint_prior_scale': 1.0942963201794815, 'changepoint_range': 0.8062170086479347, 'seasonality_prior_scale': 5.140943190461591, 'holidays_prior_scale': 0.5290256026657758, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 7}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28228.8	0.0145063	3847.4	1	
1	124					
a0	# evals	Notes				
	199	29244.6	0.000973705	1381.26	1	
1	236					
a0	# evals	Notes				
	299	29717.9	0.00263184	3009.3	0.6404	0.64
04	351					
a0	# evals	Notes				
	399	29859.9	0.00344236	7083.71	0.5887	0.58
87	461					
a0	# evals	Notes				
	499	30239	0.0449628	1992.63	1	
1	569					
a0	# evals	Notes				
	599	30595.2	0.0268431	2084.48	1	
1	676					
a0	# evals	Notes				

	699	30733.7	0.0153153	4906.65	1	
1	784					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30819.6	0.0178679	3954.41	0.4848	
1	889					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30977.3	0.0126129	1539.46	1	
1	995					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31367.3	0.353113	7344.38	1	
1	1101					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31614.8	0.0176478	1612.12	1	
1	1215					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31694.3	0.00931562	2225.29	1	
1	1319					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31734.8	0.0212872	2369.55	1	
1	1428					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31821.8	0.0194989	4007.82	0.6079	0.60
79	1530					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31881.6	0.00584038	1130.09	1	
1	1640					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31910.9	0.00227357	339.597	1	
1	1755					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31921.1	0.0108239	1119.89	1	
1	1862					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31944.2	0.00826531	2759.59	1	
1	1970					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31964.3	0.00104914	460.048	1	
1	2074					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31981.9	0.0561395	1474.93	1	

1	2181						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2099	31995.4	0.00369792	984.264	1		
1	2283						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2199	32014.6	0.0218275	1695.89	1		
1	2388						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2299	32026.4	0.00066564	610.409	1		
1	2495						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2399	32030.3	0.00131165	748.765	0.3915	0.39	
15	2607						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2499	32035.6	0.00655555	1028.7	1		
1	2713						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2599	32042.4	0.00508542	261.712	1.38	0.1	
38	2822						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2699	32043.6	0.00251232	247.271	1		
1	2936						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2799	32048.9	0.000404795	128.59	1		
1	3044						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2899	32051	0.00036742	123.631	1		
1	3150						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2999	32053.9	0.000532658	156.849	0.7291	0.72	
91	3258						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3099	32056.3	0.054392	1480.28	1		
1	3371						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3199	32058.6	0.000484578	193.557	1		
1	3475						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3299	32061.4	0.00192021	299.226	1		
1	3583						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32062.3	0.000350772	250.372	1	
1	3690					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3499	32064.4	0.00339601	407.335	0.3399	0.33
99	3794					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3599	32072.2	0.0207268	614.999	1	
1	3902					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3699	32076.2	0.00915433	800.893	1	
1	4006					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3799	32079.1	0.00321197	622.683	1	
1	4115					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3899	32079.9	0.00739482	237.23	1	
1	4225					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3999	32080.4	0.00032145	64.4399	1	
1	4336					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4099	32080.8	0.00195156	74.1136	1	
1	4444					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4199	32081.3	0.000144221	80.2536	1	
1	4551					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4222	32081.3	3.91628e-06	10.0755	1	
1	4574					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:29:50,274] Trial 43 finished with value: 74.98414462438663 and parameters: {'changepoint_prior_scale': 0.7260442720303897, 'changepoint_range': 0.8058574984493356, 'seasonality_prior_scale': 4.9922643559459, 'holidays_prior_scale': 1.1399231407591899, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28290.8	0.365804	16908.2	1	
1	115					
a0	# evals	Notes			alpha	alph
	199	30477.8	0.137799	7250.3	0.4028	
1	225					
a0	# evals	Notes			alpha	alph
	299	31808.3	0.0202013	2196.86	1	
1	334					
a0	# evals	Notes			alpha	alph
	399	32633.9	0.00428043	1358.89	1	
1	443					
a0	# evals	Notes			alpha	alph
	499	34114	0.0105793	3475.04	1	
1	552					
a0	# evals	Notes			alpha	alph
	599	36228.3	0.0735131	13718.1	1	
1	658					
a0	# evals	Notes			alpha	alph
	699	37322	0.00742074	5681.73	1	
1	769					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	37811	0.00542395	3153.06	1	
1	878					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	38090.5	0.0509885	2346.23	1	
1	988					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	38333.4	0.00758249	5138.66	1	
1	1097					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	38622.3	0.0021991	1181.17	1	
1	1207					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	38773.3	0.0187106	12463.5	1	
1	1314					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	38880.2	0.00369315	2825.03	1	
1	1422					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	39345.5	0.0107529	7741.13	1	
1	1527					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	39556.3	0.000242085	318.723	1	
1	1634					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	39620.4	0.0254613	1732.65	1	
1	1744					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	39754.5	0.000624096	1036.03	1	
1	1853					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	39763.6	3.27016e-05	203.844	0.9819	0.98
19	1966					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	39778.1	0.00317266	777.747	1	
1	2075					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	39805.7	0.0704429	1808.83	1	
1	2182					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	39947.4	0.0189324	3803.56	1	
1	2287					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	40005.6	8.74669e-05	319.102	1	
1	2396					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	40020	0.000392047	161.804	1	
1	2507					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	40031.1	0.012755	1594.58	1	
1	2612					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	40048.8	0.000282133	201.912	1	
1	2720					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	40051.9	0.00126777	1226.87	1	
1	2824					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	40052.7	0.000574316	181.775	1	
1	2935					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	40057.7	0.00879626	545.388	1	
1	3044					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	40060	0.000460336	1015.85	0.3615	
1	3150					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	40062.7	0.000190112	206.311	0.1973	
1	3258					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	40065	0.00313117	1130.54	1	
1	3367					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	40066.4	0.00300663	499.305	1	
1	3479					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	40067.6	0.000360518	85.9995	1	
1	3587					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	40068.2	0.000399307	542.303	1	

```

1      3695
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      40068.8      0.00028576      121.824      0.7583      0.75
83      3808
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      40069.3      0.000285083      152.069      1
1      3914
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3638      40069.4      0.000258598      26.4686      1
1      3957

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:30:06,788] Trial 44 finished with value: 146.1906672356688 and parameters: {'changepoint_prior_scale': 1.4814848593533165, 'changepoint_range': 0.8576227290400631, 'seasonality_prior_scale': 3.1453205606508856, 'holidays_prior_scale': 0.20770940774105442, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      27645      0.115861      4630.65      0.8941      0.089
41      119
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      29046.2      0.0235895      3527.6      0.5304      0.53
04      230
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      29444.2      0.00175889      1369.9      0.3379      0.33
79      336
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```


	399	29791.1	0.0195532	9121.94	0.3668	
1	446					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	29937.9	0.0101525	2769.74	0.4083	0.40
83	556					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30114.8	0.0108121	3780.63	0.4705	0.47
05	664					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30680.7	0.0333514	2383.09	1	
1	778					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30860.7	0.0023946	896.044	0.3697	
1	886					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30940.1	0.020339	840.576	1	
1	1000					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31001	0.00177321	1105	1	
1	1109					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31060.3	0.00116141	420.846	1	
1	1220					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31154.2	0.0342207	1881.21	1	
1	1328					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31282.8	0.00580876	1199	1	
1	1435					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31332.1	0.00409247	3414.68	0.3077	
1	1546					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31354.1	0.00155924	620.244	1	
1	1648					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31441.3	0.0217129	2349.73	1	
1	1758					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31612.2	0.00570847	1568.54	0.3359	

1	1865						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	1799	31650.8	0.000422785		212.596	1	
1	1974						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	1899	31700.8	0.0167477		1065.54	1	
1	2085						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	1999	31772.2	0.00018371		277.467	1	
1	2194						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2099	31803.8	0.00565089		636.962	1	
1	2308						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2199	31831.1	0.0521684		2540.33	1	
1	2424						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2299	31860.4	0.000995394		258.555	1	
1	2531						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2399	31868.5	0.0007359		996.838	0.254	
1	2638						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2499	31885.9	0.006654		1002.76	1	
1	2749						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2599	31908.6	0.0128817		269.42	1	
1	2859						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2699	31935.2	0.0145142		3044.17	1	
1	2971						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2799	31952.6	0.00829592		857.752	0.4977	0.49
77	3076						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2899	31971.2	0.0466813		1397.51	1	
1	3184						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2999	31978.5	0.000378745		228.478	1	
1	3298						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	31982.5	0.00128801	365.3	1	
1	3407					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	31985	0.00043542	261.429	0.2294	0.22
94	3517					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	31988.1	0.000304019	180.706	1	
1	3625					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	31990	0.000122743	150.777	1	
1	3731					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	31996.4	0.00391236	1440.66	0.8388	0.83
88	3841					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32017	0.0149807	277.822	1	
1	3952					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32022.1	0.00143065	1058.86	0.9737	0.97
37	4056					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	32027.7	0.00415553	420.974	0.9606	0.96
06	4166					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	32038.2	0.0234232	1924.94	0.4711	0.47
11	4275					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	32056.8	0.00735295	298.887	1	
1	4386					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	32061	0.00223608	127.09	1	
1	4498					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4199	32063.5	0.000226304	223.464	0.3467	0.34
67	4607					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	32064.4	0.00336004	378.556	1	
1	4712					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
4399      32065.3  1.32776e-05      48.3182      0.9253      0.92
53      4822
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
4423      32065.4  7.33927e-05      22.0266      1
1      4849

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:30:26,762] Trial 45 finished with value: 70.79547385196452 and parameters: {'changepoint_prior_scale': 0.37517052533879336, 'changepoint_range': 0.8001181230878203, 'seasonality_prior_scale': 2.1563081822621983, 'holidays_prior_scale': 1.4540785768281297, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
99      28323.8      0.0357817      4247.52      1
1      117
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
199      29472.2      0.00268577      5979.7      0.3212      0.32
12      227
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
299      29926.2      0.0872728      2868.74      1.385      0.13
85      331
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
399      30352      0.0103133      3395.59      0.9095      0.90
95      439
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
499      30786.6      0.00776459      4761.88      1
1      545

```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30938.3	0.00122719	2129.37	0.4711	
1	660					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31607.2	0.556434	11415.2	1	
1	771					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	32240	0.019232	5463.59	1	
1	881					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32425.1	0.00235864	2798.8	1	
1	989					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32563.9	0.0119357	3516.94	0.2508	
1	1102					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32648.2	0.00895212	2015.59	1	
1	1213					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32789.5	0.00262254	1415.38	1	
1	1326					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32846.6	0.00230406	346.712	1	
1	1433					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32921.3	0.0451351	1059.79	1	
1	1543					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32948	0.00341777	630.219	1	
1	1651					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	33025.9	0.0239688	3835	1	
1	1760					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	33079	0.00160456	808.152	1	
1	1869					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	33112.4	0.00108702	406.421	1	
1	1978					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	1899	33121.7	0.00113562	233.887	1	
1	2089					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	33145.5	0.0214285	2704.4	1	
1	2199					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	33224.6	0.00158413	1904.15	0.3472	0.34
72	2308					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	33231.3	0.000356622	474.688	1	
1	2416					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	33248.4	0.00124202	499.107	1	
1	2526					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	33263.1	0.0221107	1306.6	1	
1	2632					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	33272	0.000920919	328.013	1	
1	2742					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	33283.4	0.00343168	1307.21	1	
1	2851					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	33288	0.000738983	156.916	1	
1	2959					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	33289.5	0.00330093	594.326	1	
1	3068					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	33292	0.000172786	122.715	1	
1	3174					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	33293.6	0.0042685	587.249	1	
1	3281					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	33300.4	0.000670646	556.267	1	
1	3387					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	3199	33323.3	0.00276161	333.903	1	
1	3496					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	33330.6	0.000274053	154.022	0.9495	0.94
95	3602					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	33331.3	0.000229417	104.398	1	
1	3710					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	33333.8	0.000924028	554.745	0.1755	
1	3822					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	33334.5	0.000261079	92.0373	1	
1	3932					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	33335.6	0.0005948	126.14	1	
1	4042					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	33336.6	0.00263145	363.858	0.9258	0.92
58	4151					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	33337.2	4.14872e-05	94.1574	0.2396	
1	4267					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	33337.6	0.000110348	189.074	1	
1	4377					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	33338.1	0.00504682	276.169	1	
1	4486					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4199	33339.2	0.00128451	102.464	1	
1	4601					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	33340	0.0024984	291.806	1	
1	4714					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	33340.8	0.000700532	197.497	0.3572	0.35
72	4818					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4499	33341.7	0.0015223	264.263	0.4074	

```

1      4926
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4599      33342.3      0.00085129      241.407      1
1      5036
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4699      33342.5      0.000442762      174.679      1
1      5142
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4760      33342.6      7.94939e-05      22.2404      1
1      5209

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:30:47,457] Trial 46 finished with value: 90.43572106771533 and parameters: {'changepoint_prior_scale': 0.2916356768387254, 'changepoint_range': 0.8217934285377161, 'seasonality_prior_scale': 1.3922100114625764, 'holidays_prior_scale': 2.9427353934981006, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28404.1      0.08656      7572.49      1
1      116
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      29237.6      0.0202105      8498.06      0.4234
1      223
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      29706.1      0.00940681      984.761      1
1      331
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```


	399	30103.4	0.00398285	1045.59	1	
1	435					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30456.7	0.0383251	5683.46	0.3748	
1	543					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30768	0.0126914	11574	0.6222	0.62
22	652					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31091.5	0.0110815	934.851	1	
1	759					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31352.3	0.0242692	1101.72	1	
1	867					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31542	0.00224506	1557.2	1	
1	970					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31588.9	0.0213019	377.459	1	
1	1076					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31776.2	0.0178929	537.629	1	
1	1186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31811.9	0.00250071	831.725	1	
1	1289					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31850.1	0.0312044	1319.96	0.9638	0.96
38	1396					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31887.1	0.00146029	639.268	1	
1	1502					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31963.2	0.0381114	543.818	1	
1	1613					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31989.5	0.000416337	699.365	1	
1	1729					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32013.1	0.0161597	980.035	1	

1	1834						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1799	32033.5	0.0124647	1636.05	1		
1	1952						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1899	32043.3	0.00143056	195.304	1		
1	2063						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1999	32048.5	0.00230587	554.054	1		
1	2169						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2099	32052.6	0.0123035	377.001	1		
1	2275						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2199	32054.7	6.26973e-05	137.638	1		
1	2386						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2299	32061.2	0.0159572	899.362	1		
1	2495						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2399	32066.2	0.00103653	694.673	0.9953	0.99	
53	2607						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2499	32071.3	0.000501756	99.2404	1		
1	2716						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2599	32072.5	0.000930475	164.944	1		
1	2825						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2699	32076.5	0.00124979	1171.25	1		
1	2934						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2799	32077.8	0.000983756	210.313	0.453		
1	3045						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2899	32078.7	0.0131424	493.904	1		
1	3148						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2999	32082.9	0.000713165	202.777	0.547	0.5	
47	3261						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32085	0.0109066	318.188	1	
1	3372					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3199	32087.1	0.000172189	315.655	0.3713	0.37
13	3485					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3299	32088.4	0.000561036	153.836	1	
1	3593					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3399	32089.1	0.00436791	260.216	1	
1	3708					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3499	32089.5	0.0014093	99.6941	1	
1	3818					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3599	32089.7	0.00116447	146.919	1	
1	3924					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3699	32090.5	0.00146215	92.6636	4.956	0.49
56	4038					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3799	32091	0.00262102	120.856	1	
1	4149					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3899	32091.4	0.00020264	107.844	0.5631	0.56
31	4258					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3999	32091.8	0.00022593	83.7382	1	
1	4363					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4099	32092.8	0.00172069	105.847	1	
1	4470					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4199	32093	4.59336e-05	130.375	0.1439	0.39
87	4586					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	4281	32093.2	1.21264e-05	80.0838	1.13e-07	0.0
01	4725	LS failed, Hessian reset				
	4299	32093.2	0.000387922	55.0209	1	

```

1      4745
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4399      32093.3      7.60582e-05      84.9667      0.3426
1      4857
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4401      32093.3      7.36556e-05      19.9288      1
1      4859
Optimization terminated normally:
  Convergence detected: relative gradient magnitude is below tolerance
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
  components = components.append(new_comp)
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
  components = components.append(new_comp)
[I 2023-11-27 19:31:05,403] Trial 47 finished with value: 81.02740135882611 and parameters: {'changepoint_prior_scale': 0.23594485042276517, 'changepoint_range': 0.8132703408879968, 'seasonality_prior_scale': 2.316792420192348, 'holidays_prior_scale': 1.0928585668992314, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 1}. Best is trial 11 with value: 70.66361400790363.
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
  components = components.append(new_comp)
Initial log joint probability = -188.93
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28057.3      0.00819071      1891.51      1
1      115
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      29275.9      0.0582181      15453.6      0.291      0.02
91      222
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      29583.2      0.00246084      2656.45      0.2123      0.21
23      334
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  399      29783.5      0.0312532      3064.23      1
1      444
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	499	30407.8	0.0131824	2392.45	1	
1	550					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30555.8	0.00433544	2243.09	0.9996	0.99
96	662					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30622.5	0.021588	1795.67	1	
1	778					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30923.7	0.00200726	1024.16	0.4964	0.49
64	887					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31033.9	0.0346386	1086.86	1	
1	1002					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31083.3	0.0093387	1714.84	0.1994	
1	1110					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31210.5	0.0513898	1885.76	1	
1	1214					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31355.7	0.193101	4938.32	1	
1	1322					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31846.7	0.000491896	1914.47	0.2062	0.20
62	1430					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31886.8	0.00293373	946.35	0.5012	0.50
12	1542					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31922.1	0.00390934	924.167	1	
1	1647					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31942	0.00375565	1408.1	0.5197	
1	1757					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31959.1	0.00911318	430.219	1	
1	1864					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31966.3	0.00458762	488.598	1.03	0.1

03	1972						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	1899	31979	0.0131919	1144.93	1		
1	2083						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	1999	31986.6	0.000756912	150.922	1		
1	2195						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2099	31991.6	0.00443241	274.728	1		
1	2303						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2199	31997.9	0.00190955	223.016	1		
1	2408						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2299	32013	0.0316755	806.183	1		
1	2514						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2399	32025.9	0.0178916	592.221	1		
1	2619						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2499	32035.9	0.0113568	473.818	1		
1	2725						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2599	32041.8	0.00130377	483.678	1		
1	2834						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2699	32044.5	0.000177681	160.34	1		
1	2942						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2799	32046.3	8.22116e-05	74.6632	1		
1	3051						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2899	32048.6	0.00211363	159.283	1		
1	3168						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	2999	32052.2	0.00211146	301.575	1		
1	3279						
	Iter	log prob		dx	grad	alpha	alph
a0	# evals	Notes					
	3099	32053.1	6.31957e-05	78.5807	1		
1	3390						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32054	0.00102216	152.722	1	
1	3497					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32054.4	0.00551649	329.106	1	
1	3606					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32055.4	0.00120717	89.8285	1	
1	3715					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32056.3	0.00265049	270.448	1	
1	3824					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32056.7	0.000119189	55.4984	0.886	0.8
86	3933					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32057	0.00043031	127.682	0.4303	
1	4041					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	32057.2	0.000179678	82.1382	0.4156	0.41
56	4151					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	32057.6	0.000465733	102.909	0.3666	0.96
31	4263					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	32058.3	0.00648703	91.8666	1	
1	4372					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	32059.4	0.00125298	175.894	1	
1	4481					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4199	32059.8	0.000442981	26.577	1	
1	4592					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	32060.2	0.000268409	60.4548	1	
1	4703					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	32060.4	0.00404667	186.007	1	
1	4821					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
4499 32060.7 0.000499243 121.473 1
1 4931
  Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4599 32060.9 0.000157079 17.3647 1
1 5039
  Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
4678 32060.9 0.000111814 9.1723 1
1 5128

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:31:26,150] Trial 48 finished with value: 74.42779705851974 and parameters: {'changepoint_prior_scale': 0.5217889119681274, 'changepoint_range': 0.8050446586611966, 'seasonality_prior_scale': 1.0828914646856949, 'holidays_prior_scale': 0.5811384035857753, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
99 28446.5 0.0118141 8353.62 0.1552 0.15
52 122
  Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
199 29483 0.00448977 3252.75 0.7974 0.79
74 232
  Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
299 29801.9 0.0321363 1903.55 1
1 340
  Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
399 30455.1 0.0184429 2234.75 1
1 446

```


	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30976.2	0.0734021	2059.31	1	
1	556					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31133.2	0.00709959	1126.74	1.647	0.16
47	666					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31260.2	0.108965	5026.23	1	
1	770					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31879.9	0.00586719	3015.41	1	
1	884					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32168.5	0.00758481	1722.09	1	
1	993					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32370.1	0.155087	4117.95	1	
1	1101					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32439.8	0.0044341	577.001	1	
1	1214					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32458	0.000468762	307.453	1	
1	1324					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32534.3	0.00490503	725.887	1	
1	1429					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32639.1	0.0210653	4149.16	1	
1	1536					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32739.9	0.0503139	2965.12	1	
1	1642					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32799.7	0.000410571	799.203	0.7661	0.76
61	1751					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32812.4	0.000218991	156.887	0.9526	0.95
26	1858					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	1799	32817.3	0.00184916	226.911	1	
1	1965					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32819.9	0.00609256	1076.87	0.3691	
1	2070					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32841.1	0.00203358	500.43	1	
1	2176					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32880.4	0.00255907	738.257	9.438	0.94
38	2287					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32888.3	0.00201691	974.618	0.2705	0.027
05	2395					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32893.5	0.000361701	99.0982	0.8355	0.83
55	2501					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32897.8	0.00201149	150.473	1	
1	2611					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32900.1	0.0019246	120.088	1	
1	2719					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32901	0.000337541	741.838	0.5693	0.56
93	2825					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32902.6	0.00183953	167.364	1	
1	2927					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32904.1	0.000164882	89.369	1	
1	3036					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32905.3	3.88508e-05	300.207	0.5574	0.55
74	3148					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32906.2	0.00353029	342.698	0.5029	
1	3254					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	3099	32911	0.00347741	429.779	0.9694	0.96
94	3358					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32918.5	0.00543105	313.817	1	
1	3461					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32921	0.00359514	212.423	1	
1	3568					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32921.6	0.000450584	203.239	1	
1	3672					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32922.2	0.000364879	127.627	10	
1	3781					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32922.5	0.000437981	85.9785	1	
1	3889					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32922.7	0.00203832	76.4605	1	
1	3993					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3764	32922.8	8.45649e-06	12.3155	1	
1	4064					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:31:43,794] Trial 49 finished with value: 86.69425142560733 and parameters: {'changepoint_prior_scale': 1.1573637256096856, 'changepoint_range': 0.8183379937412681, 'seasonality_prior_scale': 4.07600511395605, 'holidays_prior_scale': 0.11872698583345787, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 7}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27581.6	0.0136292	3962.03	0.7003	0.70
03	119					
a0	# evals	Notes				
	199	28737.8	0.0181925	7500.56	1	
1	227					
a0	# evals	Notes				
	299	29302.1	0.011413	2840.31	1	
1	332					
a0	# evals	Notes				
	399	29896.8	0.0203884	1751.76	0.3432	
1	440					
a0	# evals	Notes				
	499	30105.7	0.00362833	855.539	1	
1	545					
a0	# evals	Notes				
	599	30229.9	0.00222282	2036.06	0.373	0.3
73	655					
a0	# evals	Notes				
	699	30414.9	0.0378384	2211.26	1	
1	764					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30485.9	0.0575884	4433.21	1	
1	877					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31006.4	0.0546781	4900.74	1	
1	984					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31190.2	0.0138887	1457.51	1	
1	1093					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31322.4	0.0160526	5479	0.6782	0.67
82	1199					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31411.5	0.00409694	1368.91	1	
1	1311					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31473.2	0.0293263	7482.1	1	
1	1424					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31548.5	0.0315279	3312.05	1	
1	1531					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31611.8	0.00119116	1001.7	1	
1	1634					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31656.2	0.000383027	324.699	1	
1	1738					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31685.7	0.0240859	3694.89	1	
1	1847					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31734.8	0.00958675	2922.34	1	
1	1958					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31783.6	0.011634	1825.02	1	
1	2067					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31815	0.0120938	861.242	1	
1	2170					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	31833.6	0.000608386	227.477	0.7499	0.74
99	2278					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31884.3	0.00772192	1442.61	1	
1	2386					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31898.7	0.000387468	544.401	0.7916	0.79
16	2496					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31922	0.0324383	1028.69	1	
1	2606					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	31973.3	0.265793	5258.77	1	
1	2712					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32080.6	0.00170458	672.205	1	
1	2818					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32102.9	0.00901485	1777.08	0.4804	
1	2925					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32111.8	0.00403671	1018.05	0.8231	0.82
31	3037					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32113.8	0.00117468	494.587	1	
1	3146					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32121	0.00445038	527.126	1	
1	3251					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32134.3	0.000469474	148.007	1	
1	3358					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32138.7	0.000940238	320.847	1	
1	3470					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32141.7	0.00481806	347.288	1	
1	3578					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32145.3	0.000796159	245.994	1	

1	3690						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3499	32150.6	0.000816104	340.186	1		
1	3796						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3599	32153.1	0.000637122	241.972	1		
1	3902						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3699	32153.9	0.000283648	133.496	1		
1	4008						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3799	32154.8	0.000505213	359.236	0.2374	0.23	
74	4117						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3899	32156.1	0.00128599	276.541	1		
1	4219						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3999	32160.8	0.000561668	280.999	1		
1	4325						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4099	32161.8	0.00206412	391.323	1		
1	4432						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4199	32163	0.000953537	267.273	1		
1	4536						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4299	32163.5	4.23773e-05	66.5133	0.9505	0.95	
05	4643						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4399	32167.4	0.000790904	442.849	0.3395		
1	4754						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4499	32168.3	0.00239635	370.379	1		
1	4860						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4599	32170.2	5.95631e-05	39.165	1		
1	4970						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4699	32171.1	0.0016151	128.68	1		
1	5079						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4799	32172.6	0.000340077	160.495	1	
1	5191					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4899	32173.1	0.000172259	98.3189	1	
1	5300					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4999	32173.3	6.85916e-05	58.3666	1	
1	5405					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5099	32174.7	0.0110815	1045.29	1	
1	5513					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5199	32181.5	0.00123107	411.097	1	
1	5625					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5299	32183.9	0.000377713	180.935	1	
1	5728					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5399	32184.3	0.000532294	135.131	1	
1	5834					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5499	32184.6	0.000175798	30.4318	1	
1	5941					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5599	32184.7	0.00179686	149.883	1	
1	6050					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5636	32184.8	0.000125562	20.4713	1	
1	6090					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance


```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:32:09,355] Trial 50 finished with value: 70.90204351408077 and parameters: {'changepoint_prior_scale': 0.8885544784835895, 'changepoint_range': 0.8000893037894947, 'seasonality_prior_scale': 4.742368564171124, 'holidays_prior_scale': 8.390947881498143, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27240.8	0.150059	7460.49	1	
1	112					
a0	# evals	Notes			alpha	alph
	199	28960.7	0.010792	2268.66	0.5019	
1	224					
a0	# evals	Notes			alpha	alph
	299	29453.3	0.0402485	7363.21	0.5538	0.55
38	330					
a0	# evals	Notes			alpha	alph
	399	29895.5	0.0182601	3004.41	0.3174	
1	435					
a0	# evals	Notes			alpha	alph
	499	30174.5	0.0245274	4535.19	1	
1	541					
a0	# evals	Notes			alpha	alph
	599	30443.6	0.0695044	5185.36	0.5241	
1	647					
a0	# evals	Notes			alpha	alph
	699	30719.2	0.0134249	1608.1	1	
1	751					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30819.1	0.00699043	2480.14	1	
1	857					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30864.8	0.0075035	2060.37	1	
1	969					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	30947	0.0450553	1292.15	1	
1	1075					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31464.4	0.000340731	597.366	1	
1	1185					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31594.3	0.00178378	1152.4	0.894	0.8
94	1290					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31663.6	0.00233427	814.155	1	
1	1397					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31688.2	0.002059	1243.42	1	
1	1503					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31740.5	0.0238778	4643.26	0.6152	0.61
52	1611					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31850.9	0.0533918	3991.6	1	
1	1720					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31902.4	0.00224026	1362.26	0.1713	
1	1831					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31919.2	0.0561539	756.49	1	
1	1941					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31959.7	0.00139693	327.23	1	
1	2051					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31964.7	0.0019501	639.926	1	
1	2156					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	31983.4	0.0298284	2156.31	1	
1	2267					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31990.8	0.00141213	626.943	1	
1	2372					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32008.4	0.00868188	697.941	1	
1	2482					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32043	0.0209544	1049.27	0.2214	0.22
14	2586					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32072.6	0.000366346	364.475	1	
1	2694					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32082.3	0.00141141	456.6	1	
1	2807					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32088.8	0.00126082	228.094	1.633	0.16
33	2916					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32092	0.000290769	157.066	1	
1	3020					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32093.5	0.00013058	138.607	1	
1	3124					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32096.1	7.75181e-05	66.242	1	
1	3231					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32097.5	0.00607774	185.342	1	
1	3337					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32099.2	0.00475486	509.43	1	
1	3443					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32102.4	0.000290424	255.027	1	
1	3547					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32103.5	0.00116548	295.008	1	

```

1      3649
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      32104.1      0.000154401      49.2995      1
1      3760
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      32105.5      0.00172701      253.543      1
1      3866
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      32106.6      0.00142964      204.097      1
1      3972
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      32107.9      5.50353e-05      69.3438      1
1      4077
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      32108.5      0.000230321      123.359      1
1      4179
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3999      32108.7      0.00101125      68.0518      1
1      4289
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4099      32109.8      0.000216361      138.004      0.6552      0.65
52      4404
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4199      32110.1      1.97396e-05      20.7251      1
1      4511

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:32:28,483] Trial 51 finished with value: 74.85716564558466 and parameters: {'changepoint_prior_scale': 0.8591943263994056, 'changepoint_range': 0.8054634436832001, 'seasonality_prior_scale': 4.661222642656836, 'holidays_prior_scale': 8.180721754532502, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27821.6	0.0171967	3143.46	1	
1	119					
a0	# evals	Notes			alpha	alph
	199	28930.6	0.00141591	2329	1	
1	231					
a0	# evals	Notes			alpha	alph
	299	29205	0.00266116	1002.25	1	
1	341					
a0	# evals	Notes			alpha	alph
	399	29539.1	0.00096946	419.681	1	
1	449					
a0	# evals	Notes			alpha	alph
	499	29752.3	0.00595748	2805.55	0.9398	0.93
98	559					
a0	# evals	Notes			alpha	alph
	599	29852.2	0.00109081	610.631	1	
1	663					
a0	# evals	Notes			alpha	alph
	699	30125.7	0.000368996	2167.38	0.1556	0.15
56	768					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30200.2	0.00232467	1423.41	0.4272	
1	876					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30286.8	0.00237372	1283.32	1	
1	985					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	30324.7	0.0214557	2095.66	1	
1	1096					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	30374.5	0.0147095	3280.75	0.7464	0.74
64	1211					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	30434	0.0095281	1948.19	0.3772	
1	1323					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	30535.3	0.00802618	1806.47	1	
1	1434					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	30673.3	0.063567	2647.56	0.599	0.05
99	1543					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	30760.6	0.00479697	1753.68	1	
1	1654					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	30835.9	0.00579511	5324.91	0.2998	
1	1766					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	30849.9	0.021286	1976.97	1	
1	1872					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	30866.5	0.00118294	615.706	1	
1	1983					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	30878.4	0.00254312	842.365	1	
1	2098					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	30884	0.00200822	295.863	1	
1	2208					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	30886.8	0.000679531	302.337	0.4407	0.44
07	2317					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	30897.9	0.0121275	383.012	1	
1	2425					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	30913.2	0.00121369	400.581	0.708	0.7
08	2534					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	30919.1	0.00187032	170.178	0.4384	
1	2644					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	30923.4	0.00281171	178.605	1	
1	2764					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	30925.1	2.46539e-05	166.286	0.07988	0.079
88	2878					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	30926.8	0.000859425	1210.47	0.04143	
1	3003					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	30929.9	3.80172e-05	98.1665	0.1199	0.11
99	3123					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2809	30930	1.8381e-05	112.419	2.654e-07	0.0
01	3181	LS failed, Hessian reset				
	2899	30931.5	0.00692321	654.639	1	
1	3291					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	30941.1	0.00133914	137.468	0.9599	0.95
99	3410					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	30946.4	0.000629431	101.63	1	
1	3531					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	30947.8	0.000913677	131.021	1	
1	3644					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	30948.3	0.000308501	347.33	0.2379	0.7
33	3760					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	3399	30949.4	0.000419051	344.031	0.3135	
1	3885					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	30950.9	0.0253023	1589.79	1	
1	3999					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	30962.5	0.00352691	498.744	0.3997	0.39
97	4109					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	30966.1	0.0034136	694.932	0.3346	
1	4224					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3758	30967.4	2.91159e-05	91.0023	3.976e-07	0.0
01	4331	LS failed, Hessian reset				
	3776	30967.5	1.24976e-05	90.6331	1.917e-07	0.0
01	4403	LS failed, Hessian reset				
	3799	30967.6	4.93928e-05	57.6938	1	
1	4432					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3873	30968.3	4.05896e-05	231.276	1.177e-07	0.0
01	4566	LS failed, Hessian reset				
	3899	30968.4	9.26411e-05	70.865	0.08972	
1	4596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3955	30968.6	1.82431e-05	115.065	1.367e-07	0.0
01	4719	LS failed, Hessian reset				
	3999	30968.8	0.00013346	104.594	0.6578	0.65
78	4774					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4044	30968.9	1.52104e-05	94.0912	1.773e-07	0.0
01	4878	LS failed, Hessian reset				
	4062	30969	1.58329e-05	73.8105	3.917e-07	0.0
01	4940	LS failed, Hessian reset				
	4099	30969	0.000795954	133.444	0.4082	
1	4983					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4153	30969.2	2.11158e-05	117.089	7.124e-08	0.0
01	5104	LS failed, Hessian reset				
	4199	30969.4	1.64917e-05	39.0678	0.753	0.7
53	5160					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4251	30969.5	7.44115e-06	69.1438	9.585e-08	0.0
01	5283	LS failed, Hessian reset				


```

4259      30969.5  3.34261e-06      41.4471  1.311e-07      0.0
01      5329  LS failed, Hessian reset
Optimization terminated normally:
Convergence detected: relative gradient magnitude is below tolerance

```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

components = components.append(new_comp)
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

components = components.append(new_comp)
[I 2023-11-27 19:32:48,452] Trial 52 finished with value: 75.94912253480895 and parameters: {'changepoint_prior_scale': 0.05603020634099953, 'changepoint_range': 0.8097482144902154, 'seasonality_prior_scale': 2.2779845816235973, 'holidays_prior_scale': 9.074682712903781, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.

```

```

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

components = components.append(new_comp)

```

```

Initial log joint probability = -188.93

```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27957.9	0.00980403	4335.74	1	
1	118					
a0	# evals	Notes				
	199	28930.8	0.00703021	2382.93	0.638	0.6
38	227					
a0	# evals	Notes				
	299	29361.1	0.033603	5479.63	1	
1	340					
a0	# evals	Notes				
	399	29867.9	0.00747626	2540.9	0.8166	0.81
66	447					
a0	# evals	Notes				
	499	30222.2	0.00347998	2137.19	1	
1	551					
a0	# evals	Notes				
	599	30378.8	0.00265885	1069.54	1	
1	659					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	699	30454.6	0.00898053	1749.92	1	
1	770					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30560.2	0.0155682	2361.16	1	
1	881					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30928.9	0.110638	1527.74	1	
1	990					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31175.1	0.00206703	725.985	1	
1	1094					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31229.1	0.00018605	418.333	1	
1	1199					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31284.8	0.0149208	2283.08	1	
1	1307					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31333.7	0.022781	5198.27	1	
1	1416					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31424.5	0.0379023	3418.13	1	
1	1522					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31560.1	0.0782194	6109.28	0.8477	0.84
77	1629					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31681.6	0.000766774	798.56	0.5169	0.51
69	1739					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31704.3	0.00122128	523.67	0.3158	0.31
58	1844					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31743	0.0189376	1877.42	1	
1	1951					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31782.3	0.0079554	899.547	1	
1	2060					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1999	31806.7	0.00427652	1144.81	1	
1	2165					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31818	0.000665375	859.357	0.173	0.1
73	2271					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31832.1	0.00133897	511.782	1	
1	2379					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31844.3	0.00103406	701.275	1	
1	2487					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31972.1	0.260993	3281.76	1	
1	2596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32019.7	0.00317516	436.07	0.5118	
1	2704					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32024.5	0.00137696	988.612	1	
1	2811					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32038.8	0.00758883	948.468	1	
1	2919					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32041.6	0.000181853	174.963	1	
1	3027					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32042.9	0.00165857	718.076	1	
1	3134					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32051.7	0.000240412	95.6381	1	
1	3246					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32052.9	0.000427717	122.107	1	
1	3350					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32054.7	0.000167496	178.952	2.377	0.23
77	3457					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32056.5	0.00031132	268.782	1	

1	3568						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3399	32057.2	0.000146427	139.32	1		
1	3671						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3499	32059.8	0.01111071	655.891	1		
1	3775						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3599	32064	0.00711027	179.221	1		
1	3882						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3699	32068.4	0.00715789	411.94	0.4578		
1	3989						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3799	32071.1	0.00168962	83.3336	1		
1	4095						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3899	32072.2	0.000145141	93.893	1		
1	4199						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3999	32073.6	0.00108996	65.8033	1		
1	4303						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4099	32074.5	0.00273722	314.803	0.4987	0.49	
87	4413						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4199	32075.7	0.000802586	84.6935	1		
1	4520						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4299	32076	0.000904733	171.07	1		
1	4625						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4399	32076.9	0.000142946	121.87	1		
1	4740						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4499	32077.2	0.000697129	115.126	1		
1	4846						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	4578	32077.4	3.8921e-05	12.8838	1		
1	4931						

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:33:09,270] Trial 53 finished with value: 71.25487353772874 and parameters: {'changepoint_prior_scale': 0.41746724862052226, 'changepoint_range': 0.8008387381686365, 'seasonality_prior_scale': 0.34356613904754285, 'holidays_prior_scale': 4.946213191228398, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27821	0.0061227	3974.65	1	
1	118					
a0	# evals	Notes				
	199	29137.9	0.0252344	3141.04	0.8588	0.85
88	228					
a0	# evals	Notes				
	299	29736.3	0.0282431	4498.33	1	
1	337					
a0	# evals	Notes				
	399	29982.9	0.00327613	1251.41	1	
1	447					
a0	# evals	Notes				
	499	30561.8	0.0403094	1843.05	1	
1	559					
a0	# evals	Notes				
	599	30671.2	0.00182128	734.387	1	
1	666					
a0	# evals	Notes				
	699	30781.4	0.0049212	970.348	1	

1	771					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30906.3	0.0686561	2620.22	1	
1	879					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31012.3	0.0022266	1104.12	1	
1	988					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31087.9	0.00916318	1103.49	0.6717	0.67
17	1098					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31180.8	0.0031467	774.128	1	
1	1202					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31213.2	0.00153141	786.98	1	
1	1314					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31248.1	0.00185449	354.618	1	
1	1425					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31405.4	0.0428564	3948.58	0.167	0.1
67	1532					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31588.2	0.0112231	368.335	1	
1	1641					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31648.3	0.0150304	1547.99	1	
1	1748					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31662.5	0.00083804	782.184	1	
1	1853					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31696.9	0.0085787	1058.51	1	
1	1961					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31728.5	0.00701951	1302.97	1	
1	2072					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31746.4	0.00128403	685.916	1	
1	2182					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31755.3	0.0037243	641.215	1	
1	2287					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31800.3	0.00236487	1005.77	1	
1	2399					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31811.3	0.0108851	1153.8	1	
1	2509					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31950.7	0.00228183	1792.84	1	
1	2615					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32013.5	0.000362848	1743.35	0.6678	0.66
78	2724					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32062.4	0.0401047	900.914	1	
1	2837					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32085.8	0.000220621	279.226	1	
1	2947					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32091.7	0.00688828	637.052	1	
1	3052					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32093.2	0.000378688	249.405	1	
1	3165					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32096.5	0.000687961	287.434	1	
1	3274					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32097.4	0.00708214	246.31	4.002	0.40
02	3387					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32098.5	0.000144639	73.454	1	
1	3494					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32099.7	0.000672531	216.916	1	
1	3601					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	3399	32105	0.03377	836.288	1	
1	3708					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32109.6	0.000171635	101.803	1	
1	3815					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32110.6	0.0150976	1295.33	1	
1	3922					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32111.2	0.000469007	176.273	1	
1	4030					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	32111.4	0.00310011	144.7	1	
1	4139					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3845	32111.5	0.000179415	20.9752	1	
1	4192					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:33:26,000] Trial 54 finished with value: 74.28763982372631 and parameters: {'changepoint_prior_scale': 0.7650952146332662, 'changepoint_range': 0.8046382335295362, 'seasonality_prior_scale': 3.1025347699093153, 'holidays_prior_scale': 7.444186881131969, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	26768.5	0.0171613	3410.78	1	
1	116					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	28759.8	0.38787	9513.36	1	
1	221					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29287.9	0.0980521	7794.03	1	
1	326					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29779.1	0.0561668	3618.2	1	
1	432					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	29937.9	0.0187865	2362.16	1	
1	542					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30047.1	0.0070201	4199.29	0.407	0.4
07	649					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30204.2	0.0114931	3811.31	1	
1	757					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30433.6	0.0144831	2266.85	1	
1	864					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30773.5	0.0146151	8050.23	1	
1	975					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	30960.7	0.00746072	1954.49	1	
1	1088					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31215.8	0.0037069	2173.05	1	
1	1194					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31293.7	0.00195037	643.288	1	
1	1303					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31350	0.00406295	1441.8	1	
1	1413					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31689.1	0.00551497	3411.52	1	
1	1518					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	1499	31725.5	0.00453765	1738.38	1	
1	1625					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31823	0.0191073	2617.95	0.9642	0.96
42	1729					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31987.3	0.0029115	2280.51	0.1913	
1	1843					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32027.3	0.0307092	6440.27	1	
1	1949					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32047.5	0.0419589	2730.09	1	
1	2052					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32080.3	0.00909794	688.048	1	
1	2156					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32093.4	7.81245e-05	127.492	1	
1	2260					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32099.6	0.00362697	1110.11	0.4016	
1	2369					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32124.6	0.000152759	601.252	0.4153	0.41
53	2479					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32136.4	0.00175421	564.291	0.5074	0.50
74	2587					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32215.4	0.00343345	970.463	1	
1	2691					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32230.2	0.00131342	733.334	1	
1	2795					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32238.5	0.0189725	1716.13	1	
1	2898					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2799	32256.3	0.150314	2289.11	1	
1	3004					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32351.5	0.0283099	1061.84	1	
1	3115					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32366.5	0.00168848	299.895	0.7538	0.75
38	3226					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32367.7	0.000199216	129.101	0.8151	0.81
51	3334					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32368.4	0.00164482	73.8856	1	
1	3443					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32368.8	0.000217341	328.637	0.4537	
1	3551					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32369.2	0.0033192	210.154	1	
1	3660					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32370.1	0.000661686	110.28	1	
1	3771					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32370.4	1.71094e-05	45.7299	0.3871	0.38
71	3879					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32370.5	0.000441117	87.2131	1	
1	3982					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	32371.5	0.00017722	85.4268	1	
1	4083					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	32371.9	0.000158378	76.5916	0.8051	0.80
51	4192					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	32373.3	0.00203777	524.818	1	
1	4299					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	32373.9	0.000682801	92.5432	1	

```

1      4406
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4199      32374.1      8.02345e-06      63.4924      0.6043      0.60
43      4515
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4206      32374.1      1.253e-05      15.5451      0.2321
1      4524

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:33:47,528] Trial 55 finished with value: 81.86228541401529 and parameters: {'changepoint_prior_scale': 1.3344863185323605, 'changepoint_range': 0.8135190654528387, 'seasonality_prior_scale': 4.848636695593508, 'holidays_prior_scale': 5.726308159796353, 'seasonality_mode': 'additive', 'weekly_seasonality': 9, 'yearly_seasonality': 7}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      29079.6      0.0266999      7638.27      1
1      114
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      30291.2      0.022238      8872.25      1
1      222
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      31589.8      0.0164784      4161.27      1
1      333
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  399      32908.2      0.0134707      8713.86      0.6925      0.69
25      444
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	499	33768.4	0.00127326	2042.26	1	
1	556					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	34640.3	0.0491329	5219.91	1	
1	667					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	36520	0.00148914	6858.54	0.1906	0.19
06	777					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	36992.3	0.0255064	23087.5	1	
1	883					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	37142.6	0.00763614	990.342	1	
1	992					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	37686.5	0.00842237	11164.2	1	
1	1098					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	37774.1	0.00751907	4610.32	0.7304	0.073
04	1211					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	37924.6	0.194863	23170.1	1	
1	1320					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	38297.5	0.0106052	4231.75	1	
1	1426					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	38392.1	0.00213591	3704.54	1	
1	1535					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	38479.5	0.00828793	2542.41	1	
1	1641					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	38510.2	0.00183405	982.658	1	
1	1748					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	38555.8	0.0051986	2217.37	1	
1	1859					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	38601.5	0.00521466	769.897	1	

1	1971					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	38632.9	0.0103534	3169.72	0.8555	0.85
55	2081					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	38659.6	0.00129421	372.515	1	
1	2188					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	38666.6	0.000479723	386.823	1	
1	2296					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	38677.8	0.00167684	3441.83	0.5464	0.54
64	2402					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	38691.6	0.00249675	1649.41	1	
1	2512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	38698.5	0.000108547	1208.11	0.2924	0.29
24	2617					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	38700.8	0.000296532	222.497	0.6894	0.68
94	2719					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	38704	0.00908446	1043.7	0.905	0.9
05	2831					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	38705.4	0.000360861	376.853	0.6814	0.68
14	2939					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	38706.4	0.00071508	178.116	0.9732	0.097
32	3051					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	38707.1	0.00101622	507.052	1	
1	3157					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	38707.8	0.000692154	616.886	1	
1	3262					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	38709.6	0.000588562	420.451	1	
1	3368					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	38710.9	0.000854391	322.578	1	
1	3472					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3299	38715.9	0.0224508	2611.67	1	
1	3579					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3399	38727.2	0.00185895	467.666	1	
1	3689					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3499	38728.3	3.41449e-05	53.4516	1	
1	3798					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	3579	38728.5	0.000127615	25.6025	1	
1	3883					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:34:04,280] Trial 56 finished with value: 131.5941016013582 and parameters: {'changepoint_prior_scale': 0.6258470368632653, 'changepoint_range': 0.8451682980494716, 'seasonality_prior_scale': 6.454122201619545, 'holidays_prior_scale': 9.808559801264094, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28189	0.0132539	3971.46	1	
1	118					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	199	29192.6	0.0309988	2602.64	1	

1	229					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29546.3	0.0781395	9293.7	0.3874	
1	332					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30033.9	0.0142464	2576.99	1	
1	437					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30490.4	0.0027493	1551.82	1	
1	540					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30754.8	0.00301849	1065.94	1	
1	649					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30884.2	0.00198618	1066.67	1	
1	756					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30948.1	0.0413596	1870.63	1	
1	864					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31166.2	0.0637686	9566.69	0.7413	0.74
13	970					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31393.6	0.0592113	1523.52	1	
1	1078					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31510.8	0.00696735	1967.81	1	
1	1182					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31621.9	0.00165294	538.167	1	
1	1289					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31637.5	0.000109598	325.66	1	
1	1395					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31707.5	0.000873449	426.803	1	
1	1506					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31737.3	0.00787784	990.454	0.345	
1	1620					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31756.9	0.000364589	650.284	0.2095	
1	1726					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31775	0.000552356	1170.02	0.3916	0.39
16	1838					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31793.5	0.00537635	649.578	1	
1	1948					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32001	0.0987669	2412.07	1	
1	2055					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32058.1	0.000511384	330.997	0.8163	0.81
63	2162					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32066.6	0.00485671	594.255	1	
1	2268					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32070.4	0.0130419	656.263	1	
1	2379					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32072.6	0.0023515	210.909	0.9005	0.90
05	2482					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32077.9	0.0077811	148.845	1	
1	2590					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32080.6	0.00407989	661.283	0.4687	0.46
87	2698					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32081.8	0.0010755	239.552	1	
1	2808					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32084.3	0.00159073	221.011	1	
1	2915					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32087.7	0.0117434	116.662	1	
1	3027					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	2899	32089.7	0.000754481	176.098	0.9125	0.91
25	3135					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32090.9	0.00283321	286.79	1	
1	3243					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32092.7	0.00176177	380.183	1	
1	3351					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32093.5	0.000495443	83.0051	0.874	0.8
74	3458					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32093.9	0.00236029	109.641	1	
1	3566					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32094.4	0.000333591	154.435	0.3025	0.30
25	3677					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32095.3	0.000176049	68.1399	1	
1	3783					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32095.6	0.000528613	209.615	0.4562	
1	3891					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32096	0.000409322	70.6346	1	
1	4000					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	32096.7	0.000246272	182.136	0.8288	0.82
88	4112					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	32097	0.00248536	604.641	1	
1	4221					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	32098.6	0.0311018	527.35	1	
1	4328					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	32099.5	0.00196502	88.9546	1	
1	4441					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	4199	32100.3	0.000556373	123.896	1	
	4550					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	32100.6	0.000323365	72.6121	0.5997	0.59
97	4658					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	32100.9	0.00111525	193.288	1	
1	4766					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4499	32101.3	0.000293565	187.888	1	
1	4874					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4599	32101.9	0.0175079	268.34	1	
1	4981					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4699	32102.6	0.0094792	287.793	1	
1	5091					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4787	32103	0.000121697	17.5792	1	
1	5188					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:34:32,315] Trial 57 finished with value: 76.18571234949134 and parameters: {'changepoint_prior_scale': 0.9684439336515368, 'changepoint_range': 0.8068895240001502, 'seasonality_prior_scale': 4.508374822269419, 'holidays_prior_scale': 2.1663256651474203, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 16}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

a0	# evals	Notes				
	99	29726.3	0.0304711	12650.3	1	
1	118					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	31071.9	0.00462086	8580.48	0.6267	0.62
67	227					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	32169.9	0.0441172	12818.1	0.2464	
1	336					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	32934.8	0.0179412	2410.34	1	
1	439					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	33470.2	0.216196	11891.7	1	
1	548					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	36707.5	0.00458668	6953.13	0.6458	0.64
58	656					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	37350.1	0.0635943	8882.55	1	
1	762					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	37556.7	0.00837911	4859.1	1	
1	867					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	37970.4	0.0312121	7032.08	1	
1	976					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	38228.5	0.000437744	2225.88	1	
1	1082					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	38303	0.00614168	4181.23	1	
1	1189					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	38453.3	0.002464	5107.3	0.8713	0.87
13	1299					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	38520.4	0.0235436	2769.37	1	
1	1406					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1399	38677.1	0.00320781	3554.78	1	
1	1512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	38733.6	0.0079706	1694.93	1	
1	1621					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	38904.2	0.00156573	1471.51	1	
1	1735					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	38993.3	0.0136901	4659.36	0.5171	0.51
71	1845					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	39297.2	0.00199187	3231.79	1	
1	1952					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	39329.8	0.00370658	1060.15	1	
1	2058					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	39375.1	0.000532459	1680.05	1	
1	2167					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	39414	0.00341202	1401.19	1	
1	2276					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	39454.6	0.000620172	1235.86	1	
1	2383					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	39477.4	0.00209792	1416.64	1	
1	2490					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	39490.6	0.000572372	952.879	1	
1	2598					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	39501.9	0.000666313	554.659	1	
1	2704					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	39517.8	0.0129488	16890.6	0.6005	0.60
05	2807					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	39786.4	0.0100485	3956.96	1	

1	2913					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	39827.2	0.00395479	1680.29	9.211	0.92
11	3024					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	39839.5	0.00154739	594.174	0.8228	0.82
28	3136					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	39843.2	0.000165963	841.147	1	
1	3242					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	39846.6	0.00734414	923.16	1	
1	3349					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	39859.3	0.00370495	1218.58	1	
1	3461					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	39870.7	0.000358385	521.782	1	
1	3565					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	39872.5	9.3304e-05	187.059	0.5813	0.58
13	3672					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	39873.5	0.000399108	366.181	1	
1	3781					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	39876	0.0123749	1167.9	1	
1	3885					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	39878.2	0.000304055	136.88	0.3383	
1	3999					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	39879.1	0.000303911	364.059	1	
1	4106					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	39879.7	0.000395619	728.423	1	
1	4212					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	39880.5	0.000729871	446.824	1	
1	4323					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	39881	0.00169851	833.576	1	
1	4431					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4199	39882.1	9.88789e-05	104.605	1	
1	4545					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	39882.5	0.000111113	185.021	1	
1	4650					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	39882.9	0.00053152	448.483	1	
1	4759					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4499	39885.3	0.00907246	1656.78	0.114	
1	4865					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4599	39888	0.000141809	562.3	1	
1	4977					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4699	39888.6	8.40997e-05	171.001	0.2912	0.29
12	5084					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4799	39889	0.000179702	154.661	1	
1	5202					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4899	39889.2	0.000208952	163.488	1	
1	5311					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4999	39889.3	0.000257227	111.539	0.9393	0.93
93	5425					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5099	39889.6	3.68172e-05	136.643	0.8971	0.89
71	5529					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5199	39889.7	0.00017258	118.392	1	
1	5645					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5299	39890.5	0.00100359	1411.13	1	
1	5754					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
5399 39891.1 7.85579e-05 143.058 1
1 5860
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5499 39891.3 3.75937e-05 160.888 0.4266 0.42
66 5968
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5599 39891.5 8.83385e-05 167.228 0.2482
1 6076
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5699 39892 0.00120613 267.792 1
1 6181
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5711 39892 0.000140291 45.5785 0.4066 0.98
66 6196

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:34:57,719] Trial 58 finished with value: 147.56970305973678 and parameters: {'changepoint_prior_scale': 0.1369109846984946, 'changepoint_range': 0.8682799515198231, 'seasonality_prior_scale': 7.03833555948016, 'holidays_prior_scale': 1.391903551609925, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
99 28233.3 0.140809 16694.7 0.5146
1 121
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
199 29309.3 0.0346105 2876.35 1
1 227

```


	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29568.1	0.0319619	2353.71	1	
1	337					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29879.6	0.00207355	1487.76	0.6405	0.64
05	445					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30043.1	0.0141611	1380.35	1	
1	554					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30574	0.00388014	1031.63	1	
1	662					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30646.2	0.00524326	560.367	1	
1	770					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30872.7	0.0133974	2989.81	1	
1	881					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31001.2	0.0265617	4902.96	0.3544	
1	989					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31054.6	0.00049835	531.116	1	
1	1098					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31237.7	0.205289	3635.64	1	
1	1209					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31494.4	0.0753408	3308.34	1	
1	1313					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31709.8	0.001484	3252.89	0.5427	0.54
27	1422					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31814.7	0.00471458	3608.92	0.7128	0.71
28	1531					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31846.7	0.00720945	1645.67	1	
1	1644					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	1599	31866.5	0.002846	1115.83	1	
1	1755					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31883.5	0.00140244	282.792	1	
1	1862					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31902.1	0.00105932	425.971	1	
1	1971					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31919.3	0.00127111	537.875	1	
1	2079					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31924.9	0.000974667	318.467	1	
1	2186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31934.1	0.00400825	525.827	1	
1	2295					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31943.5	0.00045007	240.986	1	
1	2406					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31959.8	0.000269966	239.922	1	
1	2513					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31963.5	0.000179933	397.768	0.2472	0.24
72	2624					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	31966.4	0.000264271	79.1419	2.392	0.23
92	2731					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	31969	0.000294344	405.672	1	
1	2839					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	31971.6	0.00198724	164.743	1	
1	2946					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	31981	0.00706753	531.693	0.4728	0.47
28	3053					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

97	2899	31992.8	0.000298805	248.168	0.597	0.5
	3160					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	31994.8	0.00141006	468.493	1	
1	3267					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	31996.9	0.00520024	239.993	1	
1	3376					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32000.1	0.0013356	285.487	1	
1	3480					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32005	0.0366719	654.239	1	
1	3592					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32019.7	0.00548688	659.445	1	
1	3699					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32023.8	0.000626257	250.775	1	
1	3806					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32025.4	0.00016971	107.574	0.8104	0.81
04	3914					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32025.9	4.9923e-05	48.5106	0.8028	0.80
28	4023					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	32027.5	0.00034888	99.9262	1	
1	4131					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	32028.2	0.00676676	135.757	1	
1	4239					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	32028.9	0.000206724	70.0041	1	
1	4346					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4005	32029	2.60818e-05	18.8659	1	
1	4352					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:35:17,296] Trial 59 finished with value: 72.64410919199848 and parameters: {'changepoint_prior_scale': 0.37619645702861704, 'changepoint_range': 0.8029640519524359, 'seasonality_prior_scale': 7.962300464038986, 'holidays_prior_scale': 0.5066904406553747, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 9}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	26708.4	0.0847366	3694.27	1	
1	117					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29050.4	0.0548736	8571.26	0.8689	0.86
89	225					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29651.9	0.0839337	8963.67	0.3391	
1	334					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29936.1	0.00469124	2304.07	0.8425	0.84
25	440					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30141	0.0188467	2030.52	0.3007	
1	548					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30512.1	0.0755342	4454.27	1	
1	658					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30946.6	0.00189039	1540.76	1	
1	764					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31090.6	0.00664465	1441.77	1	
1	871					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31203.8	0.0038831	769.607	1	
1	982					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31244.8	0.0180588	2596.16	1	
1	1085					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31482.2	0.13802	2918.71	1	
1	1191					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31664.7	0.00316819	1730.67	1	
1	1303					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31782	0.000369483	316.663	1	
1	1410					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31815.7	0.0187276	2052.24	1	
1	1524					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31894.2	0.00969364	2750.17	1	
1	1631					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31918.1	0.021747	1034.39	1	
1	1735					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31942.9	0.00278927	585.591	1	
1	1845					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32033.9	0.00211044	1526.93	1	
1	1952					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32043.8	0.0206765	3435.84	1	
1	2064					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32069.1	0.00297192	193.855	1	
1	2176					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32082.3	0.0181206	2429.6	1	
1	2289					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32115.2	0.00715126	546.678	1	
1	2399					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32131.3	0.00247908	1092.42	1	
1	2511					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32139.6	0.00214211	323.548	1	
1	2619					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32149	0.00555152	817.09	1	
1	2732					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32200.2	0.0535854	2240.69	1	
1	2842					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32273.2	0.0376804	606.033	1	
1	2955					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32288.5	0.00683818	923.9	1	
1	3066					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32298.1	0.000294098	66.6959	1	
1	3174					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32299.8	0.0192775	855.648	1	
1	3282					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32305	0.00011194	174.902	0.7919	0.79
19	3388					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32306.4	0.000652009	315.032	1	
1	3495					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32306.6	7.59256e-05	54.6616	1	
1	3600					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32306.9	0.000512168	150.923	1	

```

1      3707
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      32307.4      0.00145843      482.073      1
1      3811
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      32308.4      0.000534243      80.5641      0.9581      0.95
81     3921
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      32309.8      0.011      174.921      1
1      4027
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      32310.3      4.56649e-05      78.714      0.6897      0.68
97     4134
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      32310.5      1.82883e-05      36.2987      1
1      4240
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3911      32310.5      1.93071e-05      22.4829      1
1      4252

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:35:37,000] Trial 60 finished with value: 80.56510171520621 and parameters: {'changepoint_prior_scale': 4.603335693747997, 'changepoint_range': 0.8120689104053329, 'seasonality_prior_scale': 3.931827022056301, 'holidays_prior_scale': 1.5600488082804989, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 8}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	99	28745.7	0.102566	16426.6	1	
1	126					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29564.8	0.00902918	5440.37	0.7759	0.77
59	242					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30077.6	0.0216045	4981.13	0.4147	
1	363					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30770.5	0.0122073	1969.22	1	
1	485					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30931.5	0.00278988	3349.01	1	
1	598					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31241.6	0.103153	4127.99	0.1637	
1	724					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31384.5	0.00125073	3422.21	0.1029	
1	838					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31761.3	0.0171117	2955.14	1	
1	960					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31908.1	0.00212051	1097.23	1	
1	1081					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32010	0.0053206	4639.06	1	
1	1201					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32097	0.00331728	3309.05	1.099	0.10
99	1320					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32183.9	0.00427736	1572.99	1	
1	1441					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32224.6	0.00143261	1356.09	0.03999	
1	1567					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32238	0.00535285	3485.97	0.4013	

1	1689					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32244.8	0.000307537	607.813	0.5597	0.55
97	1820					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32251.6	0.000608275	506.891	1	
1	1939					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32262.3	0.00213825	1851.65	0.3735	
1	2059					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32267.9	0.00764259	1098.96	0.7647	0.76
47	2180					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32273.7	0.000525051	237.766	0.1354	
1	2307					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32276	0.0021752	537.422	1	
1	2422					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32279.7	0.000310515	441.322	0.09404	0.91
26	2542					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32281.4	0.00854172	1182.55	1	
1	2658					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32282.7	0.00104929	193.253	1	
1	2780					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32283.7	0.0026891	2415.06	1	
1	2901					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32284	0.000441422	617.849	1	
1	3016					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32284.2	5.46049e-05	101.864	1	
1	3132					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32284.3	0.000211261	104.936	1	
1	3248					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2728	32284.4	0.000212189	92.51	1	
1	3280					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:35:51,078] Trial 61 finished with value: 71.23522764705052 and parameters: {'changepoint_prior_scale': 1.667762164105626, 'changepoint_range': 0.8000461906851488, 'seasonality_prior_scale': 5.838715730930549, 'holidays_prior_scale': 1.0642675746165937, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28343.2	0.131114	17679	0.4237	
1	120					
a0	# evals	Notes				
	199	29400.5	0.0290895	4182.38	1	
1	245					
a0	# evals	Notes				
	299	29972.7	0.0170525	4881.64	0.8927	0.089
27	363					
a0	# evals	Notes				
	399	30402.6	0.138501	6524.4	1	
1	488					
a0	# evals	Notes				
	499	30845.1	0.0491439	6485.6	0.2365	
1	610					
a0	# evals	Notes				
	599	31093.3	0.0013606	1138.65	1	

1	725					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31222.7	0.0130733	10510.8	0.4168	
1	834					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31303.8	0.0159817	4326.84	0.4487	
1	945					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31783.8	0.0870441	9647.29	1	
1	1062					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31879.7	0.00030811	738.655	1	
1	1187					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31925.6	0.00107536	5635.08	0.335	
1	1306					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32033.5	0.0932861	4843.48	1	
1	1424					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32110.2	0.000539109	484.648	1	
1	1546					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32147.7	0.00107922	2800.39	1	
1	1672					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32195.9	0.00376992	2317.89	1	
1	1799					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32210.4	0.0176378	2253.8	1	
1	1925					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32219.8	0.00157032	628.679	1	
1	2039					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32227.1	5.20962e-05	603.781	0.9803	0.98
03	2154					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32234.7	0.00334651	614.61	1	
1	2272					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32242	0.00909017	1909.67	1	
1	2393					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32243.4	0.000368755	140.852	1	
1	2509					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32245.2	0.00060833	132.099	0.9804	0.98
04	2641					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32245.6	0.000148375	272.272	0.6071	0.60
71	2761					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32246.2	8.87141e-05	318.682	1	
1	2890					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32246.8	0.00192298	1222.45	1	
1	3016					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32247.3	0.00295415	462.551	1	
1	3141					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2680	32247.8	5.29415e-05	23.8168	1	
1	3243					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:36:05,021] Trial 62 finished with value: 73.49776740982067 and parameters: {'changepoint_prior_scale': 1.9109131812622877, 'changepoint_range': 0.8031788425029995, 'seasonality_prior_scale': 5.961873256652545, 'holidays_prior_scale': 0.6728513578226855, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28284.4	0.0118904	3537.65	0.7216	0.72
16	129					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29456.9	0.00782664	4544.87	1	
1	246					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30141.7	0.0975143	19694.4	1	
1	373					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30657.3	0.00742349	8773.32	0.184	0.1
84	497					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30942.8	0.00176868	1391.37	0.9573	0.95
73	629					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31194.8	0.0017591	3344.87	1	
1	753					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31524.1	0.00986735	10121.7	1	
1	878					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31807.7	0.0107479	2743.03	1	
1	997					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31929.7	0.0112606	3631.83	1	
1	1115					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32027.2	0.00655289	4684.43	1	
1	1238					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32133	0.00215021	958.293	1	
1	1356					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32188.7	0.00541372	5319.51	0.5522	0.55
22	1469					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32215.8	0.000533529	3831.13	0.09546	
1	1576					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32232.8	0.00231398	542.637	1	
1	1692					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32244.1	0.000958879	1838.02	1	
1	1805					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32248.4	0.000168119	441.737	1	
1	1917					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32251.8	0.000975966	1041.27	1	
1	2040					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32254.3	0.000431934	554.341	0.4772	0.47
72	2163					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32256.4	0.00127794	951.238	1	
1	2272					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32258.3	0.000386201	842.894	1	
1	2394					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32261.7	0.00339357	3478.39	0.249	0.2
49	2507					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32270.4	0.008104	2942.46	0.4466	
1	2629					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32272.9	0.0081988	824.994	1	
1	2743					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32274	0.000644926	652.836	0.3898	0.38
98	2870					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32274.5	0.000274546	238.27	1	
1	2994					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32275.1	0.000154167	232.479	1	
1	3115					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2605	32275.1	0.00012084	61.2144	0.2453	0.95
63	3123					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:36:17,852] Trial 63 finished with value: 71.36563786944025 and parameters: {'changepoint_prior_scale': 1.2727613535338278, 'changepoint_range': 0.8004019628901625, 'seasonality_prior_scale': 6.561380636405981, 'holidays_prior_scale': 1.9615374364456593, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

a0	# evals	Notes				
	99	28714	0.00707284	3693.08	0.5563	0.55
63	118					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29383	0.0669665	2051.94	1	
1	228					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29833.2	0.0722961	1576.47	1	
1	335					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30356.1	0.0263949	3063.46	0.5094	0.50
94	451					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30787.9	0.0116011	1146.51	1.23	0.1
23	565					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31073.7	0.0193394	1574.55	0.4695	0.46
95	674					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31263.3	0.0835207	4101	0.5261	0.52
61	790					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31484.7	0.0789904	4555.26	1.548	0.15
48	915					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31695.2	0.00973541	422.329	1	
1	1031					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31783.8	0.000930923	787.207	1	
1	1145					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31874.6	0.0110435	922.542	1	
1	1256					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31969	0.19493	4045.95	0.3325	
1	1368					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32037	0.151551	2331.76	1	
1	1486					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1399	32056.2	0.00223867	381.659	1	
1	1605					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32083.9	0.000985736	319.204	0.1489	
1	1724					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32094	0.00562052	309.244	1	
1	1832					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32113.4	0.0102078	925.183	1	
1	1946					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32125.5	0.00175768	630.785	1	
1	2066					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32137.4	0.00703494	350.944	1	
1	2187					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32142	0.0180655	324.647	1	
1	2306					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32144.6	0.00106734	306.176	1	
1	2422					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32146.4	0.000692424	209.63	0.7513	0.75
13	2537					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32148.2	0.00619914	218.655	1	
1	2654					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32150.3	0.0130724	283.034	1	
1	2778					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32152.1	0.000866431	311.156	1	
1	2897					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32152.6	0.000447094	139.772	1	
1	3014					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32152.8	5.61743e-05	54.4037	0.6783	0.67

```

83      3134
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      2799      32153      0.00268575      75.3434      1
1      3246
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      2899      32154.9      0.00423735      293.704      0.3431      0.34
31      3363
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      2999      32155.8      0.000671232      39.4257      1
1      3484
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3099      32156      0.000894673      36.3509      1
1      3595
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3193      32156.2      8.20151e-05      25.2599      1
1      3700

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:36:33,311] Trial 64 finished with value: 77.33708886865885 and parameters: {'changepoint_prior_scale': 1.5942733401394251, 'changepoint_range': 0.80809110682479, 'seasonality_prior_scale': 5.40836156532638, 'holidays_prior_scale': 1.5365883210365041, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 10, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      99      28889.3      0.127455      3788.74      1
1      125
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	199	29672.8	0.0313743	2456.39	1	
1	241					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30228.7	0.0224151	7139.44	1	
1	355					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30797	0.0118134	7990.29	0.1724	
1	481					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31168.6	0.0515775	2727.24	1	
1	596					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31842.7	0.00692534	5901.34	1	
1	723					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	32193.6	0.00997585	3586.99	1	
1	848					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	32528.8	0.00395653	3959.96	1	
1	970					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32598.4	0.00237231	3330.65	1	
1	1088					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32630.2	0.0046654	4589.89	1	
1	1210					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32671.1	0.0052824	1044.6	1.083	0.10
83	1336					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32695.3	0.00467635	3751.55	1	
1	1454					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32742.9	0.0262409	4898	1	
1	1566					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32781.8	0.00409064	3021.82	1	
1	1697					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32789.2	0.00133146	836.599	1	

```

1      1818
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1599      32802.7      0.00064422      211.447      0.8664      0.86
64      1934
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1699      32808.3      0.000100786      339.427      1
1      2048
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1799      32812.7      0.00174045      3409.69      0.9959      0.99
59      2163
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1899      32819.3      0.000138886      1592.81      0.6482      0.64
82      2289
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      32822.2      0.000309472      482.531      1
1      2407
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      32822.6      0.000579856      738.603      1
1      2524
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      32823.6      0.00223792      357.794      0.9602      0.096
02      2642
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2278      32824.6      1.76707e-05      86.1395      1
1      2742

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:36:45,381] Trial 65 finished with value: 85.51414792656183 and parameters: {'changepoint_prior_scale': 1.8464644609320124, 'changepoint_range': 0.8170837653204227, 'seasonality_prior_scale': 7.126437454433362, 'holidays_prior_scale': 3.690291118111702, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28675.5	0.0272772	9004.25	0.4367	0.43
67	123					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29427.5	0.0249137	3570.35	1	
1	232					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29872.3	0.0156641	4805	0.05726	
1	349					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30302.1	0.00230878	2211.64	1	
1	476					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30707.2	0.0498832	5413.31	1	
1	592					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31028.8	0.0595768	5289.31	1	
1	714					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31193.5	0.0431746	11581.4	1	
1	822					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31408.1	0.00426077	4207.1	1	
1	943					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31771.4	0.0245265	2569.97	1	
1	1063					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31954.8	0.0190144	1415.64	1	
1	1181					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32063.1	0.00151074	2752.06	1	
1	1305					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32104.6	0.00610308	5059.47	1	
1	1426					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32152.2	0.00826891	923.271	0.4568	
1	1554					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32187.9	0.00166594	1231.49	1	
1	1681					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32214.5	0.00095609	858.268	0.7276	0.72
76	1801					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32224.8	0.00306674	667.164	0.7816	0.78
16	1926					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32234	0.00350244	910.171	1	
1	2036					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32245.9	0.000474689	278.095	1	
1	2153					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32254.6	0.00196136	490.906	0.2779	0.27
79	2272					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32267.5	0.0148451	1481.48	1	
1	2389					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	32271.2	0.000412652	966.407	0.1662	
	2504					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32276.2	0.00120447	141.425	1	
1	2624					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32280.4	0.00121556	431.328	0.4602	0.046
02	2754					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32281.5	0.0020566	1280.66	0.1763	
1	2875					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32283.1	0.00123662	493.957	1	
1	2989					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32284.7	0.000248897	83.7226	1	
1	3120					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32285.2	0.000637148	216.033	0.07231	
1	3236					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2748	32285.4	0.000134396	43.5499	0.05709	0.97
99	3299					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:36:58,814] Trial 66 finished with value: 71.1243293750867 and parameters: {'changepoint_prior_scale': 3.3195321712596035, 'changepoint_range': 0.8000508521527764, 'seasonality_prior_scale': 7.552315668355934, 'holidays_prior_scale': 0.3703818778206412, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28337.8	0.406655	19510.6	1	
1	125					
a0	# evals	Notes			alpha	alph
	199	29411.7	0.0164228	2042.72	1	
1	247					
a0	# evals	Notes			alpha	alph
	299	29984.8	0.00288556	1600.37	0.2166	0.21
66	370					
a0	# evals	Notes			alpha	alph
	399	30709.9	0.00838924	3329.93	1	
1	494					
a0	# evals	Notes			alpha	alph
	499	31003.9	0.0439311	3977.35	1	
1	619					
a0	# evals	Notes			alpha	alph
	599	31197.9	0.00464763	1766.24	1	
1	745					
a0	# evals	Notes			alpha	alph
	699	31435.4	0.184377	8348.83	1	
1	861					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31669.8	0.00940169	1571.79	1	
1	978					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31883.7	0.00241328	3956.92	1	
1	1100					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31980.5	0.0021314	2739.42	1	
1	1218					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32051.1	0.0028196	3076.89	1	
1	1340					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32072.7	0.00610262	898.397	1	
1	1460					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32125.3	0.000222629	465.273	1	
1	1581					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32155.7	0.000767444	4072.61	0.02007	
1	1700					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32166	0.0018314	334.876	1	
1	1817					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32186.5	0.00187941	454.554	0.8759	0.87
59	1935					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32194.3	0.00468011	311.493	1	
1	2055					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32200.2	0.00172833	288.499	1	
1	2169					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32204.4	0.000548583	394.037	1	
1	2289					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32209.3	0.011153	2293.39	0.8756	0.87
56	2413					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

1      2099      32220.8      0.00479509      1515.39      0.141
1      2527
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2199      32231      0.00204154      316.752      1
1      2656
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2299      32234.2      0.000718815      98.3138      1
1      2777
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2399      32235      0.014159      628.507      0.4682      0.046
82      2906
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2499      32237.1      5.44873e-05      681.271      0.0369
1      3031
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2599      32237.5      0.000207901      72.575      1.356      0.13
56      3170
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2699      32238.1      0.000579372      363.584      1
1      3292
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2799      32238.6      0.00471294      402.354      1
1      3411
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2899      32238.8      0.000226873      260.575      1
1      3533
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2956      32238.9      5.25121e-05      51.5122      1
1      3597

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:37:13,392] Trial 67 finished with value: 73.82120289533606 and parameters: {'changepoint_prior_scale': 3.6866509732626964, 'changepoint_range': 0.8037422536116948, 'seasonality_prior_scale': 7.731013479982769, 'holidays_prior_scale': 0.41975292058400127, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28173.6	0.0596022	15845.2	1	
1	118					
a0	# evals	Notes			alpha	alph
	199	29182.5	0.00389373	2858.98	1	
1	224					
a0	# evals	Notes			alpha	alph
	299	29690.7	0.133962	10620.2	1	
1	329					
a0	# evals	Notes			alpha	alph
	399	30019.4	0.0154061	2677.73	1	
1	433					
a0	# evals	Notes			alpha	alph
	499	30378.1	0.00353877	1832.86	0.91	0.
91	539					
a0	# evals	Notes			alpha	alph
	599	30818.8	0.0106809	1079.95	1	
1	645					
a0	# evals	Notes			alpha	alph
	699	31111.7	0.043197	4781.27	0.4562	0.45
62	757					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31289.8	0.0455132	3363.58	1	
1	862					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31395.5	0.0149776	1213.19	1	
1	970					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31526.3	0.0213137	2575.99	1	
1	1078					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31681.3	0.00161482	874.453	1	
1	1186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31783.4	0.0498174	4172.75	1	
1	1297					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31810.2	0.00353277	850.737	1	
1	1407					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31842.6	0.000625689	633.345	1	
1	1512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31887.6	0.0490934	3029.45	1	
1	1622					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31950.5	0.00273842	645.863	1	
1	1731					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31963.5	0.0873671	4086.85	1	
1	1837					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31986.1	0.00823081	1480.51	1	
1	1944					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32000.2	0.000622033	1103.41	1	
1	2049					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32011.1	0.00176331	1113.48	0.4727	
1	2155					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32016.6	0.000140138	160.451	0.3466	
1	2264					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32113.4	0.0156268	1311.56	1	
1	2373					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32149.5	0.000504543	416.879	0.7006	0.070
06	2478					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32154.8	0.00239222	223.532	1	
1	2587					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32161.6	0.0040146	249.536	1	
1	2696					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32172.2	0.000172191	538.441	0.5716	0.57
16	2803					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32175.2	0.00058989	129.635	1	
1	2908					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32183.5	0.00552154	1016.6	1	
1	3013					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32186.7	0.0013487	430.046	1	
1	3118					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32189.4	0.000933719	392.947	1	
1	3223					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32195.2	0.0046811	821.417	1	
1	3330					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32215.1	0.00269522	780.453	1	
1	3439					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32218	0.00409114	530.912	1	
1	3548					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32219.3	0.00180625	473.657	1	

```

1      3658
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      32222      0.00236123      886.07      1
1      3765
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      32223.3      0.00026848      134.356      1
1      3873
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      32226.7      0.000978719      320.742      0.6712      0.67
12     3982
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      32234.5      0.000500365      537.422      0.1796      0.17
96     4093
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      32235.4      0.00426084      301.722      1
1      4199
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3999      32235.9      0.00104804      190.002      0.96      0.
96     4303
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4099      32237.2      0.00990542      250.793      0.6958      0.69
58     4409
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4199      32238.8      0.00357823      135.604      1
1      4519
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4299      32240.3      0.0020652      483.424      1
1      4626
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4399      32240.6      0.000182897      194.244      1
1      4732
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4476      32240.7      1.77926e-05      13.2723      1
1      4810

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:37:32,658] Trial 68 finished with value: 79.42083173917673 and parameters: {'changepoint_prior_scale': 4.02344282732707, 'changepoint_range': 0.8110368046831203, 'seasonality_prior_scale': 8.691386284305137, 'holidays_prior_scale': 0.8599340253994698, 'seasonality_mode': 'additive', 'weekly_seasonality': 9, 'yearly_seasonality': 1}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28886.7	0.0227736	7148.19	0.4189	0.94
22	126					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29878.7	0.0153138	3354.13	1	
1	241					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	31041.8	0.0165808	5517.81	0.2108	
1	365					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	31528.9	0.0208979	5931.16	1	
1	489					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	32368	0.020601	5660.98	1	
1	604					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	32710.7	0.00705373	4839.82	0.4438	0.44
38	724					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	33310	0.00284109	3920.79	1	
1	833					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	33672.5	0.0157011	20595.8	0.5169	
1	952					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	33817.3	0.00604338	6526.81	1	
1	1072					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	34049.8	0.0211877	1917.55	1	
1	1194					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	34076.2	0.000516796	3728.94	1	
1	1310					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	34103	0.00168247	2610.76	1	
1	1426					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	34151.4	0.00107337	7125.15	0.4511	0.045
11	1547					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	34178.3	0.00054167	1070.35	1	
1	1664					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	34194	0.0062671	3807.54	1	
1	1796					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	34207.4	0.00933165	3184.45	1	
1	1932					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	34213.6	0.000693367	437.82	1	
1	2049					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	34216.6	0.00396614	2047.14	1	
1	2163					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	34218.8	0.00138729	582.617	1	
1	2281					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	34227.2	0.00411672	1376.42	1	
1	2400					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	34231	0.000234143	345.293	1	
	2520					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	34235.1	0.00279985	1495.82	0.3601	
1	2644					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	34237.2	0.00029894	383.9	0.3175	0.031
75	2762					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	34238.6	0.0003199	547.877	1	
1	2885					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	34239.6	0.00255103	597.079	1	
1	3005					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	34240.3	0.000444603	184.228	1	
1	3126					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2619	34240.3	4.74633e-05	122.097	1	
1	3150					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:37:45,590] Trial 69 finished with value: 94.53235089865848 and parameters: {'changepoint_prior_scale': 3.0875545146871817, 'changepoint_range': 0.824457525302544, 'seasonality_prior_scale': 8.141759564708613, 'holidays_prior_scale': 1.2084140255776883, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

a0	# evals	Notes				
	99	28279.9	0.0337316	4275.88	1	
1	116					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29080.3	0.0749938	6614.12	0.4546	
1	221					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29617.7	0.0275691	6022.01	1	
1	327					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	29750.1	0.0438994	2207.45	1	
1	432					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30060.8	0.0145786	2466.61	1	
1	543					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30373.3	0.0169922	2993.61	1	
1	651					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30515.8	0.00492812	1860.25	0.6931	0.69
31	761					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31029.9	0.0677647	2454.39	1	
1	868					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31264	0.0053173	2141.43	1	
1	976					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31338.8	0.00193675	769.098	1	
1	1082					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31376	0.000280672	678.899	0.5385	0.53
85	1191					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31414.4	0.00503801	754.495	0.7696	0.76
96	1304					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31583.1	0.00602119	1087.17	1	
1	1415					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1399	31698.6	0.00170786	767.368	0.8623	0.86
23	1526					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31728.6	0.00247878	860.636	1	
1	1631					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31782.2	0.00239699	622.662	1	
1	1737					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31801	0.00241383	557.584	1	
1	1843					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31874.4	0.0010479	498.888	0.9411	0.94
11	1947					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31929.9	0.0149938	594.632	1	
1	2059					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32010	0.000607823	806.93	0.8206	0.82
06	2169					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32040.8	0.00129392	307.384	1	
1	2274					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32061.1	0.00840381	1072.14	1	
1	2378					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32070.2	0.00440549	1261.59	1	
1	2488					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32084.7	0.00215369	1436.34	0.2515	
1	2602					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32090.1	0.00144378	537.189	1	
1	2709					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32095.5	0.00177131	565.175	1	
1	2822					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32100.9	0.000162386	119.965	1	

1	2928						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2799	32106.1	0.0176121	785.076	1		
1	3035						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2899	32120	0.00359482	665.629	0.3473	0.34	
73	3146						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2999	32131.9	0.0115491	1237.75	1		
1	3251						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3099	32144.9	0.00134961	352.775	1		
1	3359						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3199	32147.7	0.000270499	113.689	1		
1	3465						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3299	32150.3	0.0011296	248.54	0.2994	0.98	
38	3571						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3399	32151.3	0.000505469	146.343	1		
1	3680						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3499	32152.2	0.00196763	217.791	1		
1	3784						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3599	32152.9	0.00050355	113.277	1		
1	3892						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3699	32156.5	0.00818131	128.292	1		
1	4003						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3799	32160.6	0.00457041	311.741	1		
1	4110						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3899	32167.9	0.00315946	330.058	0.41	0.	
41	4220						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	3999	32169	0.000273714	66.1337	1		
1	4330						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	32169.2	1.14561e-05	16.1755	1	
1	4437					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4195	32169.4	3.68507e-05	13.4229	0.4095	0.95
26	4546					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:38:04,331] Trial 70 finished with value: 77.26675979014473 and parameters: {'changepoint_prior_scale': 4.081205398586785, 'changepoint_range': 0.8081322532995833, 'seasonality_prior_scale': 3.274182233250049, 'holidays_prior_scale': 0.12453141026368719, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28741.7	0.0367167	3236.32	1	
1	122					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29486.3	0.0189046	4369.45	1	
1	240					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30018.9	0.0260524	3592.97	0.9588	0.95
88	356					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30569.7	0.00773003	4164.79	0.3378	
1	485					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31001	0.0671694	4466.52	0.8738	0.87

38	599					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31307.6	0.012471	8005.91	1	
1	717					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31543.2	0.00576328	16396.4	1	
1	837					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31614.2	0.0210858	13797.9	0.2751	
1	951					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31873.4	0.00332293	15682.3	0.4575	
1	1074					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31984.2	0.0124227	13782.8	1	
1	1192					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32103.2	0.00624928	6050.06	1	
1	1305					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32152.6	0.0202433	6437.14	1	
1	1417					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32176.3	0.00398996	2257.74	1	
1	1534					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32195.3	0.00784074	4119	1	
1	1648					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32204.8	0.00249228	2082.3	1	
1	1774					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32210.3	0.00208592	460.171	1	
1	1895					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32221.7	0.00153347	3239.86	1	
1	2015					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32231.3	0.00400885	2449.18	1	
1	2125					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32242.5	0.00254358	685.599	1	
1	2251					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1999	32248.3	0.00351022	480.771	1	
1	2368					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2099	32249.5	0.000116152	644.568	1	
1	2486					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2199	32250	0.000872008	421.759	1	
1	2597					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2299	32250.8	5.26037e-05	139.859	1	
1	2728					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2399	32250.9	7.66973e-05	1035.19	0.311	0.3
11	2849					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2435	32251	4.11135e-05	69.3267	0.3304	
1	2893					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:38:16,072] Trial 71 finished with value: 73.36600727227982 and parameters: {'changepoint_prior_scale': 3.276082517300696, 'changepoint_range': 0.8030423575863337, 'seasonality_prior_scale': 6.137546183847521, 'holidays_prior_scale': 0.8687578269112796, 'seasonality_model': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28458.6	0.0134384	4399.32	1	
1	121					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	199	29580	0.0470512	5363.83	1	
1	238					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	299	30072.4	0.0316914	13503.6	0.6792	0.67
92	354					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	399	30687.3	0.0574929	5212.69	1.176	0.11
76	481					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	499	31019	0.0370703	6092.7	1	
1	594					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	599	31152.4	0.0111741	5399.63	1	
1	715					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	699	31438.4	0.047057	5118.3	0.2107	
1	833					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	799	31748.6	0.00949287	9096.14	0.2413	
1	963					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	899	31884.9	0.000515603	3564.51	1	
1	1090					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	999	31928.9	0.0154107	10710.5	1	
1	1203					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1099	32066.7	0.0184669	10088.3	1	
1	1324					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1199	32133.5	0.00042329	1473	0.3524	0.35
24	1445					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1299	32164	0.00367651	1639.77	1	
1	1568					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32186.6	0.0152199	4879.54	1	
1	1686					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1499	32200.5	0.00200232	464.996	1	
1	1797					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1599	32220.7	0.000183164	237.415	1	
1	1919					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1699	32231.9	0.00733202	3422.02	0.2177	
1	2039					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1799	32250.1	0.000334227	848.779	1	
1	2160					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1899	32255.5	0.000507254	1993.03	1	
1	2275					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	1999	32258.6	0.000563761	985.575	0.1197	
1	2396					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2099	32263.3	0.000885534	1273.12	1.033	0.10
33	2523					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2199	32266.6	0.00268282	974.816	1	
1	2640					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2299	32270.7	0.000312262	903.679	0.3134	0.31
34	2759					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2399	32273.8	0.00158398	1697.94	0.07593	
1	2888					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2499	32275.1	0.000239385	214.893	1.419	0.14
19	3014					
a0	Iter	log prob	dx	grad	alpha	alph
	# evals	Notes				
	2549	32275.4	9.7735e-06	50.5786	1	
1	3074					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:38:29,485] Trial 72 finished with value: 71.22618076018304 and parameters: {'changepoint_prior_scale': 1.1132679421172773, 'changepoint_range': 0.8001164138031658, 'seasonality_prior_scale': 7.567576092483111, 'holidays_prior_scale': 0.5702614814100588, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28323	0.00262861	1052.39	1	
1	118					
a0	# evals	Notes				
	199	29356.7	0.0228788	1789.81	1	
1	222					
a0	# evals	Notes				
	299	29835.8	0.161638	3936.43	1	
1	332					
a0	# evals	Notes				
	399	30093.7	0.0841685	2762.43	0.3901	
1	448					
a0	# evals	Notes				
	499	30510.4	0.015967	1865.69	0.9953	0.99
53	562					
a0	# evals	Notes				
	599	30948.3	0.0930707	1765.69	1	
1	674					
a0	# evals	Notes				
	699	31152.2	0.00205048	868.716	1	
1	789					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31376	0.0689187	4652.47	1	
1	899					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31665	0.00527712	917.749	0.744	0.7
44	1019					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31717.2	0.00753696	1942.4	0.07386	
1	1135					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31783.3	0.0170182	1728.15	0.1322	
1	1258					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31915.7	0.00569252	1039.74	1	
1	1374					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32031.5	0.0549935	1263.75	1	
1	1490					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32116.4	0.00732268	887.318	1	
1	1609					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32142.3	0.00227675	243.502	1	
1	1731					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32158.5	0.00151111	421.591	2.98	0.2
98	1852					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32170.1	0.00224705	834.497	0.4635	0.046
35	1974					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32187	0.00200521	325.021	1	
1	2094					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32194.1	0.00555221	1466.91	1	
1	2215					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32199.8	0.00308294	509.641	0.05276	
1	2327					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
2099 32200.8 0.000920214 127.301 1
1 2441
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2199 32201.8 0.00767239 903.179 1
1 2557
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2299 32204.7 0.000755723 786.932 1
1 2675
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2399 32206.3 0.000226605 379.659 0.6992 0.69
92 2797
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2499 32206.8 0.00012666 186.922 0.3217 0.32
17 2918
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2599 32207.4 0.00355711 179.627 1
1 3042
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2699 32208.3 0.00633799 254.191 1
1 3153
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2799 32209 0.00780195 401.081 1
1 3277
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2899 32209.5 0.00235604 516.322 1
1 3402
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
2999 32209.7 0.00011397 159 1
1 3518
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3099 32209.9 3.93103e-05 59.546 0.3519 0.35
19 3638
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3199 32210.1 0.00033617 210.237 0.711 0.7
11 3761
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
3292 32210.2 0.000116091 15.6241 1
1 3875

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:38:46,013] Trial 73 finished with value: 75.1547114113363 and parameters: {'changepoint_prior_scale': 3.3896829523367953, 'changepoint_range': 0.8053051803552372, 'seasonality_prior_scale': 6.65981171002222, 'holidays_prior_scale': 1.6238968758236931, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28421.2	0.198321	2392.37	1	
1	122					
a0	# evals	Notes			alpha	alph
	199	29416.9	0.0575304	1149.96	1	
1	234					
a0	# evals	Notes			alpha	alph
	299	29824.4	0.0365932	3192.32	0.1647	
1	346					
a0	# evals	Notes			alpha	alph
	399	30466.4	0.0514149	2786.52	1	
1	461					
a0	# evals	Notes			alpha	alph
	499	30898.9	0.0416833	1817.44	0.2889	0.75
98	579					
a0	# evals	Notes			alpha	alph
	599	31124.9	0.00551794	1648.8	1	
1	699					
a0	# evals	Notes			alpha	alph
	699	31359.8	0.00641425	1175.51	0.1121	0.97
85	821					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31635.1	0.0443194	13157.9	1	
1	939					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31827.1	0.00166027	2559.37	0.7372	0.73
72	1068					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31893.1	0.0589631	2585.13	1	
1	1192					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32009.2	0.0208407	1938.56	1	
1	1309					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32068	0.0185249	3103.93	3.247	0.32
47	1426					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32098.3	0.0260388	4474.81	1	
1	1541					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32118.5	0.00427995	589.274	1	
1	1652					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32129.7	0.000391833	363.729	0.6301	0.63
01	1765					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32138.2	0.00143856	2110.56	1	
1	1881					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32144.4	0.00388764	517.706	1	
1	2003					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32165.6	0.00161382	1070.8	0.4395	
1	2119					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32178.7	0.00467684	853.384	0.3271	
1	2245					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32181.1	0.00385096	446.27	0.201	
1	2372					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

1      2099      32184.5      0.00243257      857.339      1
1      2497
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2199      32185.8      0.00129575      358.225      1
1      2610
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2299      32186.8      0.00239434      898.851      1
1      2719
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2399      32187.2      0.000278572      185.414      0.1929
1      2847
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2499      32187.7      0.00205005      810.67      1
1      2969
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2599      32188.1      0.00162033      352.046      1
1      3094
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2699      32188.4      0.00281078      478.876      1
1      3215
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2799      32188.7      0.00012799      131.438      1
1      3328
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2899      32189.1      0.00287665      489.3      1
1      3443
a0      Iter      log prob      ||dx||      ||grad||      alpha      alph
# evals      Notes
1      2996      32189.4      7.11644e-05      39.6694      1
1      3569

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:39:00,460] Trial 74 finished with value: 77.36648486924632 and parameters: {'changepoint_prior_scale': 2.0059726885123625, 'changepoint_range': 0.8082714884599965, 'seasonality_prior_scale': 5.591218840408742, 'holidays_prior_scale': 2.2477210101892857, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28241.1	0.00403971	7438.96	0.2055	0.20
55	124					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29612.7	0.00653767	1826.62	1	
1	245					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30155.5	0.0485208	6773.43	0.08436	
1	370					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30653.4	0.00126655	1676.49	1	
1	499					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30982.7	0.00710818	1956.73	1	
1	619					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31224.9	0.00536776	2327.19	1.314	0.13
14	742					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31434	0.014352	1989.8	1	
1	864					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31596.8	0.0553917	14199.8	1	
1	979					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31739.7	0.00188907	2135.31	1	
1	1097					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31989.7	0.0479758	6952.26	1	
1	1218					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32119.6	0.00518937	6725.57	0.1893	
1	1333					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32186.2	0.000978707	4618.48	0.5002	
1	1461					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32212.6	0.00098147	860.109	1	
1	1579					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32226.1	0.00124636	2042.36	0.09839	
1	1695					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32232.3	0.0128327	1620.62	1	
1	1815					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32249.2	0.00724398	1219.26	0.3903	0.39
03	1943					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32262.7	0.000938297	448.045	0.5276	0.52
76	2071					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32268.5	0.000788342	1580.99	0.3224	
1	2189					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32275	0.00382926	2418.77	1	
1	2313					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32280.6	0.000351156	676.584	0.06326	
1	2428					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	32282.6	0.00187301	562.674	1	
	2548					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32283.3	0.00368362	311.069	1.126	0.11
26	2664					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32284.4	0.000367417	306.917	1	
1	2787					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32284.9	0.0018182	255.927	1	
1	2903					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32285.3	7.3343e-05	272.015	0.4301	0.43
01	3027					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32285.6	0.00344178	1167.38	1	
1	3146					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2619	32285.8	6.31916e-05	56.8217	0.4995	
1	3171					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:39:13,192] Trial 75 finished with value: 71.08716456516126 and parameters: {'changepoint_prior_scale': 2.7249832715568854, 'changepoint_range': 0.8000655635057166, 'seasonality_prior_scale': 3.6668639844089443, 'holidays_prior_scale': 0.410086741377248, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

a0	# evals	Notes				
	99	28854.8	0.00447252	2677.36	1	
1	129					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29693.1	0.0255269	6065.85	0.4022	0.40
22	248					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	30268.5	0.00903751	2160.64	0.4376	0.43
76	362					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30656.4	0.00523679	1329.92	1	
1	482					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30868.2	0.0048786	1163.43	0.4468	0.44
68	597					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31148.9	0.0107337	2488.13	1	
1	716					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31470.5	0.0172978	8023.22	0.1411	
1	839					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31589.6	0.00301635	1148.01	0.6848	0.68
48	964					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31854.6	0.0140423	1265.44	0.511	0.05
11	1084					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32028	0.00651827	1956.05	1	
1	1197					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32075.2	0.00641493	2157.94	1	
1	1326					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32149.4	0.00148472	2216.61	0.09111	
1	1447					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32175.7	0.000724724	627.606	1	
1	1569					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1399	32184.7	0.00321651	901.246	1	
1	1689					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32202.1	0.00839581	2389.89	1	
1	1814					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32213.9	0.00280423	828.601	1	
1	1931					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32227.1	0.00125403	1297.88	0.3466	0.34
66	2061					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32230.8	0.000224446	603.552	1	
1	2187					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32235.4	0.000301274	1254.06	0.2088	0.20
88	2310					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32240.1	0.000168356	848.352	0.6841	0.68
41	2431					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32242.8	0.000861274	153.278	1	
1	2549					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32244	0.00276437	332.475	0.977	0.9
77	2668					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32245.6	4.85594e-05	283.364	1	
1	2788					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32246.3	0.000836188	464.253	0.2471	0.24
71	2910					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32247.5	0.00342234	166.026	1	
1	3030					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32248.3	0.000181779	317.736	1	
1	3157					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32249.2	0.00473432	245.04	1	

```

1      3273
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2799      32250.4      0.00119066      1075.86      0.867      0.8
67      3392
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2899      32251.1      0.000278804      275.825      1
1      3512
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2990      32251.2      2.40365e-05      54.6819      0.7396      0.73
96      3620

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:39:31,156] Trial 76 finished with value: 73.52413143574984 and parameters: {'changepoint_prior_scale': 2.7978067483780507, 'changepoint_range': 0.803330052349074, 'seasonality_prior_scale': 4.419275802764045, 'holidays_prior_scale': 0.415424595816547, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 5, 'yearly_seasonality': 14}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28427.1      0.00788336      5244.58      0.3224      0.32
24      127
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      29580.7      0.0202462      5419.33      0.4838      0.48
38      243
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      30076.5      0.0120363      16940.2      1
1      360
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	399	30859	0.0263115	8660.14	1	
1	477					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31278.1	0.0276676	1838.28	1.261	0.12
61	591					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31624.4	0.0242932	4197.96	1	
1	719					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31901.3	0.0109962	2782.52	0.1105	
1	841					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	32001.2	0.00538254	8370.99	0.6371	0.63
71	962					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32088.4	0.0215878	1651.01	1	
1	1085					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32180.2	0.00100101	2640.05	0.04468	
1	1212					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32192.8	0.00158314	1830.67	1	
1	1330					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32209.4	0.0026479	5222.96	0.7646	0.76
46	1445					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32239.5	0.0152751	414.68	1	
1	1560					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32247.7	0.00307379	1021.91	1	
1	1674					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32253	0.00158776	662.689	2.118	0.21
18	1799					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32257.2	7.92518e-05	734.328	0.07194	0.071
94	1927					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32259.1	5.68619e-05	110.928	1	

```

1      2052
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1799      32260.9      0.00147122      973      0.4079
1      2174
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1899      32261.6      0.000186009      438.901      0.1124
1      2286
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      32262      0.000114373      118.779      1
1      2400
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      32262.9      0.000419024      563.169      0.0399
1      2520
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      32263.1      0.00107212      209.778      1
1      2642
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2206      32263.1      0.000178527      54.098      1
1      2649

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:39:42,050] Trial 77 finished with value: 79.44175346086183 and parameters: {'changepoint_prior_scale': 2.693623535979505, 'changepoint_range': 0.8106526928918343, 'seasonality_prior_scale': 3.584173571419871, 'holidays_prior_scale': 1.0855700249917133, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	99	28660.2	0.0702904	15207	0.2764	
1	124					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29627.7	0.00296267	1550.46	1	
1	236					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29954	0.0135275	7479.87	0.3568	
1	355					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30721.3	0.00315272	3555.05	0.2574	0.25
74	483					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30999.2	0.00601815	5835.06	1	
1	624					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	31225.8	0.0254828	3874.05	1.571	0.15
71	737					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31458	0.00887505	4261.97	1	
1	859					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31964.5	0.00495261	2061.26	1	
1	973					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32112.9	0.00581372	3280.39	1	
1	1100					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32320.4	0.00143284	1455.18	1	
1	1218					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32404.8	0.00211399	2142.23	1	
1	1328					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32486.4	0.000404983	2284.62	0.3902	0.039
02	1442					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32551.2	0.01015	909.693	1	
1	1560					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32566.4	0.000451716	673.228	1	


```

1      1691
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1499      32578.8      0.00243649      3787.34      0.4995      0.49
95      1815
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1599      32582.8      0.000809783      595.631      1
1      1933
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1699      32588.9      0.0277054      5827.16      1
1      2056
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1799      32597.3      0.00976225      1111.77      0.2533
1      2178
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1899      32601.6      0.000239042      2530.43      0.05563
1      2286
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      32603.4      0.000964088      692.486      1
1      2405
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      32608.9      0.0272864      1573.28      1
1      2525
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      32611.5      0.00149255      571.92      1
1      2642
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2299      32613      0.000167861      48.7862      1
1      2766
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2326      32613      3.41959e-05      52.8299      1.447      0.14
47      2798

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:39:52,611] Trial 78 finished with value: 84.10124307057757 and parameters: {'changepoint_prior_scale': 2.520797996417411, 'changepoint_range': 0.815435591892208, 'seasonality_prior_scale': 1.8620330649664703, 'holidays_prior_scale': 0.36638746448743126, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 5, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27333.6	0.0533215	4299.79	1	
1	117					
a0	# evals	Notes			alpha	alph
	199	29287.1	0.0188712	3851.75	1	
1	222					
a0	# evals	Notes			alpha	alph
	299	29791.3	0.0109078	1609.46	1	
1	334					
a0	# evals	Notes			alpha	alph
	399	30284.2	0.0024625	1483.2	1	
1	439					
a0	# evals	Notes			alpha	alph
	499	30759.7	0.186323	4361.33	1	
1	546					
a0	# evals	Notes			alpha	alph
	599	30985.3	0.0210839	3853.98	1	
1	657					
a0	# evals	Notes			alpha	alph
	699	31132.7	0.00209496	1211.98	1	
1	769					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31219.5	0.00135533	1440.95	0.5149	0.51
49	880					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31500.6	0.0155142	1889.89	1	
1	986					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31574.6	0.0329059	977.221	1	
1	1093					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31627.2	0.00084222	392.563	1	
1	1201					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31727.1	0.0188094	7065.54	1	
1	1311					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31769.4	0.0150606	1130.12	1	
1	1416					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31853	0.000659999	388.079	1	
1	1526					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31884.5	0.00261795	1141.58	0.739	0.7
39	1632					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31936.4	0.00244402	557.541	1	
1	1743					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31962.2	0.000385364	380.245	1	
1	1847					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31978.5	0.00238235	559.795	1	
1	1952					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32007	0.00390746	278.484	1	
1	2066					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32020.9	0.000582643	320.755	1	
1	2175					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32029.3	0.000756391	334.316	1	
1	2283					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32052.7	0.0291078	1840.87	0.9732	0.97
32	2387					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32083	0.080414	3646.33	1	
1	2497					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32109.5	0.0163371	1117.76	0.4303	
1	2607					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32114.9	0.00395203	454.827	1	
1	2717					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32119.3	0.000310589	384.451	0.1101	
1	2832					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32121.4	0.000608153	130.786	1	
1	2940					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32124	0.000275264	132.498	1	
1	3052					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32125.1	0.000176906	103.422	0.3425	0.34
25	3160					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32128.7	0.000423892	115.543	1	
1	3272					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32130.2	0.000483283	79.3597	1	
1	3381					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32131.1	0.00164674	248.266	0.2103	
1	3485					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32133.4	0.0115916	419.501	1	
1	3593					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32157.4	0.100038	715.972	1	

```

1      3702
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      32161.5      8.3584e-05      51.0543      1
1      3811
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3597      32161.7      0.000284592      11.1152      1
1      3921
Optimization terminated normally:
  Convergence detected: relative gradient magnitude is below tolerance
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
  components = components.append(new_comp)
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
  components = components.append(new_comp)
[I 2023-11-27 19:40:09,542] Trial 79 finished with value: 75.93381012555932 and parameters: {'changepoint_prior_scale': 2.9486574788261564, 'changepoint_range': 0.8065730263921166, 'seasonality_prior_scale': 3.8129200251148574, 'holidays_prior_scale': 0.7263331356505424, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 7}. Best is trial 11 with value: 70.66361400790363.
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
  components = components.append(new_comp)
Initial log joint probability = -188.93
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28994.6      0.00350777      5405.05      1
1      126
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      30134      0.0174845      3210.08      1
1      240
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  299      30708.1      0.000766931      4011.07      0.1747      0.17
47      356
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  399      33005.4      0.0373463      9106.72      1
1      471
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	499	33611.3	0.0411869	18680.8	1	
1	594					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	34026.3	0.0096322	4959.29	1	
1	711					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	34652.2	0.0111224	8403.3	1	
1	826					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	34923.6	0.00312013	16756.2	0.3733	0.37
33	943					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	35107	0.000822695	2494.77	1	
1	1067					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	35198.6	0.00222425	2453.61	1	
1	1188					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	35345.5	0.00101797	14337.9	0.1968	0.19
68	1315					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	35427.4	0.0022642	5078.34	1	
1	1428					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	35468.4	0.00130619	845.031	1	
1	1546					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	35510.8	0.00305305	8613.41	1	
1	1665					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	35536.5	0.000179862	1434.46	1	
1	1781					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	35546.4	0.00202466	4624.2	1	
1	1892					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	35556.9	0.00326249	2878.14	1	
1	2010					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	35560.6	0.00377363	4428.82	0.4715	

```

1      2125
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1899      35564.1      0.000330198      492.665      1
1      2243
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  1999      35566.2      0.000368029      1672.78      1
1      2367
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2099      35568.8      0.000309712      629.88      1.532      0.15
32     2495
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2199      35570      0.000717752      651.668      1
1      2611
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2299      35571.3      0.000910294      3288.61      0.494      0.4
94     2726
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2399      35574.6      0.0011196      1030.58      1
1      2849
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2499      35578.5      0.000311937      217.886      1
1      2969
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2599      35579      0.000579754      916.458      1
1      3087
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2675      35579.5      2.89148e-05      60.4881      1
1      3173

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:40:22,307] Trial 80 finished with value: 103.25480149018036 and parameters: {'changepoint_prior_scale': 2.3573253883457483, 'changepoint_range': 0.8300065468425837, 'seasonality_prior_scale': 4.829193037668734, 'holidays_prior_scale': 1.3027089771168214, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 1}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28121.5	0.166825	2156.89	1	
1	116					
a0	# evals	Notes			alpha	alph
	199	29090.9	0.0830402	3231.66	0.2886	
1	228					
a0	# evals	Notes			alpha	alph
	299	29372.5	0.121145	967.362	1	
1	337					
a0	# evals	Notes			alpha	alph
	399	29539.5	0.00329379	1653.29	1	
1	443					
a0	# evals	Notes			alpha	alph
	499	29663.3	0.0131013	1054.52	1	
1	552					
a0	# evals	Notes			alpha	alph
	599	29761.4	0.00582878	671.726	0.5312	0.53
12	661					
a0	# evals	Notes			alpha	alph
	699	30174.3	0.0494006	4205.1	1	
1	768					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	30377.4	0.190034	1924.43	1	
1	875					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30707.1	0.0170261	1697.3	1	
1	985					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31102.9	0.00585924	632.637	1	
1	1100					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31200.6	0.0314152	860.543	1	
1	1218					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31336.8	0.00290415	960.81	1	
1	1329					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31435.7	0.0566255	1660.86	1	
1	1437					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31535.2	0.0160469	522.385	1	
1	1560					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31682.2	0.00754875	1536.95	1	
1	1674					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31866.5	0.00776501	1430.1	1	
1	1788					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31934.5	0.0385903	1472.3	1	
1	1900					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32136.1	0.00752205	1868.04	0.998	0.9
98	2012					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32144.4	0.00176341	581.961	1	
1	2135					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32155	0.00836808	585.056	1	
1	2249					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32173.1	0.00146914	528.996	1	
1	2373					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32193.7	0.00162749	758.604	0.7031	0.70
31	2485					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32219.6	0.00222257	853.614	1	
1	2605					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32224	0.00132355	157.944	0.9253	0.92
53	2720					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32228.1	0.0163142	797.036	1	
1	2834					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32234.2	0.000857221	440.191	1	
1	2955					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32236.8	0.00192714	524.933	0.3105	0.31
05	3078					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32239.9	0.00163374	339.743	0.3018	
1	3199					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32242.4	0.000904726	366.803	1	
1	3315					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32243.6	0.000703049	220.901	1.2	0.
12	3440					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32244.5	0.00185069	138.57	1	
1	3551					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32246.1	0.00216813	107.062	1	
1	3661					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32246.4	0.000823544	112.426	1.557	0.15
57	3786					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32246.8	0.000527047	54.766	0.111	0.77

```

82      3901
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3499      32247.3      0.000108024      178.896      0.3414      0.34
14      4009
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3599      32248.2      0.00463188      867.63      0.545      0.5
45      4126
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3699      32249.7      0.0022457      106.981      0.4244      0.42
44      4250
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3799      32250.3      0.000614526      44.6176      1
1      4368
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      3829      32250.4      0.000144256      12.907      1
1      4401

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:40:40,535] Trial 81 finished with value: 72.83445411978573 and parameters: {'changepoint_prior_scale': 3.456386862475374, 'changepoint_range': 0.8024006637397726, 'seasonality_prior_scale': 4.259903681535425, 'holidays_prior_scale': 0.9712281753688133, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      99      28267.9      0.124271      9192.66      1
1      127
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes

```

	199	29584.3	0.00924698	3237.32	1	
1	243					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29972.5	0.0787347	10444.6	1	
1	358					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30567.7	0.0362511	3095.75	1	
1	476					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30841	0.00103292	5146.34	0.03916	
1	595					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30930.9	0.00563399	1636.35	0.2925	0.029
25	725					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31283.5	0.00779083	13625.6	1	
1	843					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31633.3	0.00233105	5097.2	1	
1	961					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31783.4	0.00387436	3436.57	1	
1	1081					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31858.4	0.00693548	6028.5	1	
1	1199					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32014.6	0.0358393	4794.83	10	
1	1322					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32112.6	0.0404054	6699.39	1	
1	1446					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32207.1	0.00107667	4046.07	0.033	
1	1565					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32224.6	0.00166511	849.361	1	
1	1689					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32232.3	0.00122795	557.93	1	

1	1818					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32241.2	0.0134934	3275.12	1.219	0.12
19	1943					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32249.8	0.00234916	266.137	1	
1	2060					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32254.3	0.000133383	175.09	1	
1	2175					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32264.3	0.00133461	954.56	1	
1	2296					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32270.3	0.000755405	1097.25	1	
1	2413					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32272.2	0.00338028	1739.16	1	
1	2532					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32274.1	0.00219228	280.347	0.959	0.9
59	2649					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32275.9	0.000470703	384.506	1	
1	2763					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32276.6	3.0118e-05	98.3864	0.2309	0.23
09	2887					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32277.2	0.000880395	808.143	1	
1	3008					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32277.6	0.00129096	383.675	1	
1	3128					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32278.6	0.00121273	184.937	1	
1	3248					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32279.1	0.000410332	515.686	0.2957	
1	3365					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32280	0.0035113	1539.43	1	
1	3473					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2929	32280.1	0.000234932	90.4383	1	
1	3506					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:40:54,779] Trial 82 finished with value: 71.54198143795749 and parameters: {'changepoint_prior_scale': 2.5482092876297173, 'changepoint_range': 0.8002881497062676, 'seasonality_prior_scale': 7.035731114474463, 'holidays_prior_scale': 2.5474717767837802, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	30815.5	0.00728969	2239.92	0.4253	0.42
53	123					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	32161.2	0.0553592	2730.28	1	
1	238					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	34662.1	0.0160891	8663.19	0.2734	0.60
71	363					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	36141.7	0.00585996	2775.31	1.169	0.11
69	483					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	37242.2	0.00824607	4265.6	0.1874	0.18

74	602						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	599	37634	0.00633224	2856.36	1		
1	729						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	699	37879.9	0.00730239	10866.7	1		
1	845						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	799	38287	0.00976174	15355	1.446	0.14	
46	965						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	899	38852.8	0.0371163	9638.07	0.4815	0.48	
15	1100						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	999	39055.5	0.00893907	4936.01	1		
1	1216						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1099	39141.6	0.00304111	973.385	1		
1	1341						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1199	39172.4	0.000254422	991.439	1		
1	1456						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1299	39196.2	0.012844	3862.59	1		
1	1579						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1399	39217.1	8.23778e-05	4382.68	0.01798		
1	1703						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1499	39232.1	0.00647197	3837.89	0.9083	0.90	
83	1825						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1599	39239.3	0.000620144	757.625	1		
1	1942						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1699	39246.7	0.00402947	1708.24	1		
1	2067						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1799	39252.6	0.000590052	391.786	1		
1	2186						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	39255.7	0.0020664	332.171	1	
1	2307					
a0	# evals	Notes				
	1999	39256.6	0.000627281	617.376	0.5665	0.56
65	2427					
a0	# evals	Notes				
	2099	39257	0.000869212	488.649	1	
1	2547					
a0	# evals	Notes				
	2199	39257.5	0.000146114	171.705	0.8108	0.081
08	2677					
a0	# evals	Notes				
	2249	39257.6	0.000112441	57.9543	1	
1	2733					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:41:06,038] Trial 83 finished with value: 136.53124170869447 and parameters: {'changepoint_prior_scale': 3.805875500190102, 'changepoint_range': 0.8906179551547798, 'seasonality_prior_scale': 5.131442919772436, 'holidays_prior_scale': 0.32226388988674615, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28053.9	0.360105	8729.36	1	
1	122					
a0	# evals	Notes				
	199	29451.5	0.0291185	700.01	1	

1	231					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29848.4	0.0017724	1312.1	0.4541	0.45
41	343					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30062.4	0.0455867	1016.32	1	
1	454					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30441.6	0.00905325	1549.95	1	
1	567					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30661.5	0.051061	3791.16	0.4247	
1	679					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31133	0.0870012	2736.75	1	
1	783					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31336.6	0.0340877	1329.43	1	
1	902					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31522.3	0.0106407	2872.86	1	
1	1016					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31650.4	0.0887834	4650.53	1	
1	1135					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31923.2	0.00329198	2380.4	0.818	0.8
18	1255					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32023.3	0.00391826	626.385	1	
1	1373					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32036.2	0.00425067	3506.54	0.2314	0.23
14	1490					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32074.3	0.00496543	1766.34	0.03197	
1	1611					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32083.5	0.00525544	343.246	1	
1	1729					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32093.4	0.0043805	865.039	0.7349	0.73
49	1847					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32120	0.00984773	1175.39	0.6187	0.61
87	1968					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32144.3	0.00626288	2105.16	0.2144	0.21
44	2088					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32149.2	0.00292153	438.718	1	
1	2212					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32153.6	0.000333269	384.747	0.4041	0.40
41	2333					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	32156.4	0.00150132	92.2051	1	
1	2444					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32159.7	0.00132194	216.722	0.181	
1	2563					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32161.2	0.000156222	240.011	1	
1	2682					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32161.9	0.00078562	204.636	0.2538	0.69
51	2795					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32162.8	0.00263285	96.5134	1	
1	2908					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32165.2	0.000691277	342.822	0.1599	0.15
99	3031					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32166.9	0.00265112	129.334	1	
1	3161					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32167.6	0.00198013	157.503	1	
1	3278					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	2899	32168.4	0.00109336	369.959	0.944	0.9
44	3396					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32168.8	0.000203288	121.075	1	
1	3510					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32169.2	0.00193084	402.976	1	
1	3629					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32169.5	0.00103957	114.932	1	
1	3753					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32169.7	0.000765932	34.9947	1	
1	3876					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32169.9	0.00387324	244.075	1	
1	3995					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	32170.1	0.00472785	131.05	1	
1	4111					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	32170.3	0.0140355	230.332	1.338	0.013
38	4240					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	32170.6	0.00124561	113.927	0.2739	0.27
39	4367					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	32171.3	0.0101856	100.233	1.069	0.10
69	4490					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	32172.1	0.000229837	118.913	1	
1	4607					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	32172.8	0.00862518	264.58	0.9927	0.99
27	4717					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	32173.4	0.00166296	200.868	1	
1	4830					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

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      4199      32173.8    0.000205048    53.8957      1
1      4951
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      4299      32174.1    0.000243671    102.933    0.6862    0.68
62      5073
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      4399      32174.3    0.000349446    109.743    0.4713    0.47
13      5187
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      4486      32174.5    0.0001955    29.3905      1
1      5290

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:41:27,720] Trial 84 finished with value: 74.01929451495847 and parameters: {'changepoint_prior_scale': 0.5539671738137517, 'changepoint_range': 0.8039125572152955, 'seasonality_prior_scale': 5.43439203075895, 'holidays_prior_scale': 1.8446308816917794, 'seasonality_model': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      99      27480.1    0.0137856    5823.89      1
1      120
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      199      29026.9    0.00251345    2601.51      1
1      231
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
      299      29339.9    0.101199    5374.66    0.4567
1      340
  Iter      log prob      ||dx||      ||grad||      alpha      alph

```

a0	# evals	Notes				
	399	29874.7	0.114692	7363.1	0.9899	0.98
99	454					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30100.1	0.0195719	1739.82	1	
1	564					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30241.6	0.0560148	5066.92	1	
1	675					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30335.7	0.00619076	753.597	0.7172	0.71
72	785					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	30517.2	0.0138581	2505.39	1	
1	890					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	30808	0.059252	5904	1	
1	1000					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	30979.1	0.00682747	881.135	1	
1	1109					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31109.1	0.00929618	1139.51	1	
1	1219					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31368.9	0.00208091	439.448	1	
1	1325					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31418.8	0.00564346	765	1	
1	1430					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31470.5	0.0104538	1200.06	1	
1	1537					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31517.2	0.0349671	2962.32	1	
1	1644					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31541.4	0.0149425	690.971	1	
1	1750					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1699	31550.3	0.00970398	1379.45	1	
1	1860					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31564.9	0.0287801	1017.68	1	
1	1972					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31582.4	0.000425787	271.802	1	
1	2076					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31592.3	0.0036684	501.854	1	
1	2186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31596.8	0.0178133	478.079	1	
1	2295					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31605.8	0.00484077	1309.41	1	
1	2402					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31630	0.0291626	1375.64	0.2892	
1	2511					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31640.8	0.00314628	358.567	1	
1	2623					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	31647.5	0.000795443	304.904	1	
1	2737					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	31651.2	0.00402646	567.996	1	
1	2846					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	31654.9	0.000343585	311.083	0.3124	
1	2959					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	31656.5	0.00448873	399.583	1	
1	3075					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	31661.1	0.000465886	267.675	1	
1	3189					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	31662.7	0.00225637	290.265	1	

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1      3302
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3099      31664      0.00152136      222.322      1
1      3413
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3199      31666.1      0.0122308      409.038      1
1      3518
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3299      31672.2      0.000581064      153.24      1
1      3625
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3399      31676.2      0.0362864      1480.05      0.4834
1      3732
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      31681      0.00944118      87.3272      0.2256
1      3847
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      31683.2      0.00526542      478.64      1
1      3960
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      31684.1      0.000202066      391.017      0.589      0.5
89     4071
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3793      31684.8      2.02157e-05      86.9509      6.453e-08      0.0
01     4227 LS failed, Hessian reset
  3799      31684.8      0.000714606      271.371      1
1      4233
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      31685.1      0.000368476      88.1837      1
1      4347
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3999      31685.4      0.000781535      49.0228      1
1      4460
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4099      31685.7      0.000146147      44.4974      0.7838      0.78
38     4568
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4109      31685.7      1.25621e-05      24.7348      2.226      0.22
26     4583

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:41:46,701] Trial 85 finished with value: 75.47247061205194 and parameters: {'changepoint_prior_scale': 0.15275039782775263, 'changepoint_range': 0.8071376361536033, 'seasonality_prior_scale': 6.179565805792754, 'holidays_prior_scale': 7.400651419212274, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28781.8	0.0508447	6419.81	1	
1	130					
a0	# evals	Notes			alpha	alph
	199	29670.9	0.00779789	2555	1	
1	250					
a0	# evals	Notes			alpha	alph
	299	30211.6	0.0159833	10622.7	1	
1	367					
a0	# evals	Notes			alpha	alph
	399	30865.3	0.0336747	3256.66	0.8293	0.82
93	505					
a0	# evals	Notes			alpha	alph
	499	31099.6	0.0183073	8466.16	1	
1	618					
a0	# evals	Notes			alpha	alph
	599	31332.4	0.0419218	7205.89	1	
1	735					
a0	# evals	Notes			alpha	alph
	699	31925.2	0.0158944	2676.38	1.388	0.13
88	857					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	32012.3	0.00131676	4957.58	0.322	
1	975					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	32164.4	0.00665173	5082.15	0.4508	0.045
08	1095					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32210.9	0.00463657	3085.09	1	
1	1215					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32232.8	0.0103445	4474.45	1	
1	1333					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32254.6	0.00567726	1241.77	1	
1	1454					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32272.8	0.000272116	977.191	1	
1	1583					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32281.9	0.00204901	4440.54	1	
1	1699					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32287.7	0.00107194	428.979	1	
1	1814					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32291.9	0.000266003	397.432	0.7844	0.78
44	1932					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32295.2	0.00122902	300.022	1	
1	2058					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32297.3	0.000346049	151.564	0.1084	
1	2174					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32298.8	0.00041118	187.475	0.1524	
1	2299					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32300	0.000441527	467.055	1	
1	2414					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	32300.4	1.79375e-05	125.207	1	
	2533					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32301.5	0.000155232	69.4769	0.9338	0.93
38	2649					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32302	1.19837e-05	50.4082	1	
1	2766					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32302.3	0.00161474	176.365	0.9327	0.93
27	2888					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32302.7	0.0047178	366.446	1	
1	3012					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32303.3	0.00476594	1051.33	0.7681	0.076
81	3137					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32303.6	0.000295271	533.902	0.6372	0.63
72	3254					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2708	32303.7	0.000234332	57.973	0.03827	
1	3266					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:42:00,414] Trial 86 finished with value: 80.16870835600767 and parameters: {'changepoint_prior_scale': 2.1674804765920266, 'changepoint_range': 0.8115193495375431, 'seasonality_prior_scale': 7.181473089297948, 'holidays_prior_scale': 0.6600042754099879, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 8, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	27953.6	0.0164107	4864.08	1	
1	124					
a0	# evals	Notes			alpha	alph
	199	29147.2	0.0173408	2470.7	1	
1	241					
a0	# evals	Notes			alpha	alph
	299	29584.9	0.00823831	2715.34	1	
1	351					
a0	# evals	Notes			alpha	alph
	399	29952.8	0.00659063	1956.45	0.7085	0.70
85	463					
a0	# evals	Notes			alpha	alph
	499	30319.8	0.0455331	4949.68	1	
1	567					
a0	# evals	Notes			alpha	alph
	599	30770.8	0.0026228	1104.47	1	
1	674					
a0	# evals	Notes			alpha	alph
	699	30897.8	0.00159951	542.982	0.8885	0.88
85	780					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31010.5	0.00712436	407.41	1	
1	885					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31105	0.00580646	1432.48	1	
1	989					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31162.5	0.00523735	1285.44	1	
1	1099					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31208.4	0.00122391	1124.02	0.3145	0.31
45	1211					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31247	0.00706598	1217.88	1	
1	1318					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31541.3	0.0475659	1843.15	1	
1	1428					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31748.1	0.0198943	2890.51	1	
1	1536					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31782.9	0.000736721	453.077	1	
1	1643					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31856	0.00835782	654.546	1	
1	1751					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31882.3	0.00180887	340.004	1	
1	1861					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31895.2	0.00143844	396.557	1	
1	1968					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31906.3	0.000225842	286.279	0.3523	0.35
23	2079					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31967.7	0.00173557	1179.02	1	
1	2186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32044.8	0.0166514	1502.2	1	
1	2296					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32059.7	0.0050982	484.331	1	
1	2403					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32071.7	0.00208629	190.061	1	
1	2515					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32083.4	0.000664737	260.239	1	
1	2620					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32088.3	0.00115206	357.909	1	
1	2726					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32099.4	0.000641776	455.798	0.5933	0.59
33	2833					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32105	0.0168601	634.873	1	
1	2943					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32126.7	0.0156743	451.509	1	
1	3055					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32153.2	0.0131645	2190.66	1	
1	3164					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	32168.9	0.000474703	102.758	1	
1	3277					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	32170.8	0.000149948	425.663	0.6204	0.62
04	3389					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	32171.8	0.00021347	339.882	0.6263	0.62
63	3498					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	32173.3	0.00940677	893.924	0.8756	0.87
56	3600					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	32175.8	0.00106965	654.941	0.427	0.4

```

27      3708
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3499      32178.4      0.00762346      212.088      1
1      3817
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      32181.2      0.0433078      745.351      1
1      3933
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3699      32186.5      0.000635779      215.928      1
1      4041
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      32187.9      0.00165165      254.273      1
1      4148
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      32189      4.59702e-05      53.6317      1
1      4255
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3999      32189.3      0.00176621      192.35      1
1      4368
    Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  4004      32189.3      3.0646e-05      19.8025      1
1      4373

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:42:20,197] Trial 87 finished with value: 72.41655461135662 and parameters: {'changepoint_prior_scale': 1.3959239515028368, 'changepoint_range': 0.802180615818763, 'seasonality_prior_scale': 2.721216702266218, 'holidays_prior_scale': 1.304693159870039, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 8}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28219.9	0.104619	28151.8	0.3862	
1	129					
a0	# evals	Notes				
	199	29524.5	0.00146828	2028.97	0.2956	0.29
56	251					
a0	# evals	Notes				
	299	29894	0.0679237	5472.46	0.302	
1	366					
a0	# evals	Notes				
	399	30322.1	0.00620562	5932.87	0.09882	
1	493					
a0	# evals	Notes				
	499	30591.9	0.222067	3832.12	1	
1	615					
a0	# evals	Notes				
	599	30993.2	0.00260516	4143.75	0.9465	0.94
65	732					
a0	# evals	Notes				
	699	31320.9	0.00280621	3718.53	1	
1	856					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31510.1	0.00931278	6718.3	0.6889	0.68
89	979					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31915.7	0.130007	8139.92	1	
1	1098					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32026.4	0.00198155	5313.78	0.2371	
1	1219					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32104.6	0.00404946	1458.33	1	
1	1340					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32120.2	0.000123218	604.598	1	
1	1469					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32140.2	0.00123544	1987.41	1	
1	1595					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32202.6	0.00467179	1924.93	1	
1	1724					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32229.4	0.000295197	564.704	1	
1	1839					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32239.6	0.000714939	1019.73	1	
1	1961					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32244.3	0.00029322	876.405	0.4353	0.43
53	2077					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32246.2	0.000909185	1365.33	1	
1	2188					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32248.2	0.000354055	267.604	1	
1	2301					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32252.7	0.0414246	3171.61	1	
1	2415					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				


```

2099      32259.9    0.000959734      862.193      1
1  2532
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2199      32263.6    8.87474e-05      190.613      0.479      0.4
79  2672
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2299      32265      0.00663162      733.842      1
1  2790
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2399      32266.2    0.00177996      399.358      1
1  2909
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2452      32267      0.000319698      58.0749      1
1  2975

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:42:32,301] Trial 88 finished with value: 70.98197153730419 and parameters: {'changepoint_prior_scale': 0.7548269237767887, 'changepoint_range': 0.8000140745340517, 'seasonality_prior_scale': 6.844988310225516, 'holidays_prior_scale': 6.970001853268555, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28092.6      0.0323466      4638.2      1
1  120
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      28952.7      0.0199263      6673.33      0.2807      0.28
07  225
  Iter      log prob      ||dx||      ||grad||      alpha      alph

```

a0	# evals	Notes				
	299	29704.4	0.0290259	4400.52	1	
1	332					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30170.6	0.0121685	10458.9	0.09442	
1	441					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30526.4	0.0294429	5106.71	0.8139	0.81
39	552					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30803.3	0.152776	10087.4	0.4106	0.41
06	665					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	30997.5	0.00246287	1177.94	1	
1	773					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31131.8	0.00123553	1391.82	1	
1	883					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31203.1	0.00415154	891.742	1	
1	990					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31360.3	0.153313	4950.64	1	
1	1092					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31436.8	0.00501923	1482.13	1	
1	1202					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31521.2	0.00150913	660.092	0.3863	
1	1312					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31547.3	0.000578287	518.429	1	
1	1421					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31614	0.00448683	1640.9	1	
1	1531					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31766.8	0.0139467	1162.96	0.987	0.9
87	1648					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1599	31849.7	0.00437272	1496.89	0.4355	0.43
55	1757					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31888.9	0.000585966	226.545	1	
1	1861					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31915.5	0.0963733	2603.33	1	
1	1969					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31931.4	0.00242107	389.18	1	
1	2075					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31939.2	0.00124646	334.78	0.5317	0.53
17	2186					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31947	0.00307747	669.11	1	
1	2292					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31955.7	0.00848761	287.68	1	
1	2400					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31985	0.0767465	1321.81	1	
1	2512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32020.1	0.00359651	720.183	1	
1	2615					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32026.6	0.00060785	229.32	1	
1	2720					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32052.4	0.066752	1683.19	1	
1	2824					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32075.9	0.116555	1568.98	1	
1	2935					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32088.8	0.0158778	847.954	1	
1	3041					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32096.5	0.00196353	341.967	1	

```

1      3149
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2999      32109      0.000346268      286.027      0.8726      0.87
26      3256
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3099      32114.4      0.00282106      768.091      1
1      3368
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3199      32116.4      0.00110887      215.475      1
1      3483
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3299      32116.9      0.000587279      121.113      1
1      3593
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3399      32117.2      0.000872244      131.894      1
1      3707
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3499      32117.5      0.00248172      302.336      0.9863      0.98
63      3812
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3599      32118.3      0.000583009      79.349      1
1      3921
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3699      32118.7      0.00474525      214.261      1.153      0.11
53      4027
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3799      32119.3      4.84856e-05      52.13      0.4371      0.43
71      4134
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3810      32119.3      7.56739e-06      15.5285      1
1      4145

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:46:42,965] Trial 89 finished with value: 74.24220974509615 and parameters: {'changepoint_prior_scale': 0.8481432780635398, 'changepoint_range': 0.8046060153633193, 'seasonality_prior_scale': 8.425084771120167, 'holidays_prior_scale': 8.378738837361682, 'seasonality_mode': 'additive', 'weekly_seasonality': 6, 'yearly_seasonality': 2}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28353.2	0.154861	3809.95	0.8822	0.88
22	130					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	29363.3	0.0772813	3152.88	0.4086	0.40
86	249					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	29805.2	0.049932	4524.1	1	
1	371					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	30428.6	0.0257385	5417.78	1	
1	490					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30725.5	0.0198511	6262.64	0.5389	0.53
89	610					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30892.2	0.00431162	1926.84	0.2289	0.022
89	728					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31067.3	0.00191169	2740.43	1	
1	842					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31274	0.00884245	5957.81	1	
1	969					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31472.7	0.00285061	2056.37	0.3842	0.38
42	1092					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31722.1	0.00916732	4673.21	1	
1	1219					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31933.6	0.00215084	4724.69	0.1758	0.17
58	1333					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32025.6	0.00298111	6136.03	1	
1	1449					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32054.1	0.0068385	2949.99	1	
1	1563					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32081.8	0.0231629	1161.68	1	
1	1689					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32113.7	0.00256998	2881.66	1	
1	1809					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32129.8	0.00719874	6452.78	1	
1	1922					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32144	0.00893975	1020.99	1.949	0.19
49	2043					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32155.6	0.0121265	1548.94	1	
1	2165					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32160.5	0.000842151	600.482	1	
1	2286					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32162.7	0.00853924	2399.7	0.229	
1	2408					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

2099      32166.7      0.00289466      795.609      1
1  2542
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2199      32171.3      0.000222129      351.174      0.2209      0.22
09  2669
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2299      32173.8      0.00192672      109.366      1
1  2785
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2399      32175      0.000475417      532.238      1
1  2904
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2499      32175.4      0.000127722      272.59      0.3186
1  3018
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2599      32175.8      9.24383e-05      138.716      1
1  3134
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2699      32176.2      0.000221372      203.155      0.6451      0.064
51  3261
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2799      32177.1      0.000202823      316.703      1
1  3378
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2899      32177.7      4.2207e-05      532.289      0.1385      0.13
85  3499
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
2999      32178.1      0.000390627      211.733      1
1  3614
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3099      32179      0.000209744      115.041      1
1  3730
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3199      32179.5      0.00213713      270.087      1.89      0.1
89  3845
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
3264      32179.6      4.14794e-05      37.9191      1
1  3919

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:46:58,646] Trial 90 finished with value: 78.07646277357014 and parameters: {'changepoint_prior_scale': 0.6001725711106537, 'changepoint_range': 0.808954850046327, 'seasonality_prior_scale': 3.3575058871025516, 'holidays_prior_scale': 6.965053215178571, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 5, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28286.3	0.0620198	7093.25	1	
1	127					
a0	# evals	Notes			alpha	alph
	199	29485.6	0.0350431	2808.42	1	
1	249					
a0	# evals	Notes			alpha	alph
	299	30006.6	0.0381213	3933.2	1	
1	361					
a0	# evals	Notes			alpha	alph
	399	30707.7	0.0163146	4918.24	1	
1	479					
a0	# evals	Notes			alpha	alph
	499	30957.8	0.00792688	3481.31	1	
1	602					
a0	# evals	Notes			alpha	alph
	599	31042.1	0.0105795	11205.7	1	
1	722					
a0	# evals	Notes			alpha	alph
	699	31538	0.0585254	2797.13	1	
1	850					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31716.3	0.00927105	3817.57	1	
1	968					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31923.8	0.00989068	2076.3	1	
1	1091					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32002.6	0.00565846	2305.5	1	
1	1209					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32056.8	0.00276613	1833.31	1	
1	1320					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32107.8	0.00650239	907.43	1.538	0.15
38	1437					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32149.6	0.0141108	6575.17	1	
1	1557					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32163	0.000806113	2609.99	0.926	0.9
26	1676					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32171.5	0.0174448	3860.08	1	
1	1792					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32218.2	0.000494093	1077.24	1	
1	1908					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32228.9	0.000586334	392.792	1	
1	2032					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32233	0.000166134	467.989	0.06404	
1	2153					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32235.2	0.00680236	1218.09	3.616	0.36
16	2275					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32238.4	0.000145928	258.258	1	
1	2389					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

56	2099	32239.1	7.33064e-05	532.517	0.9856	0.98
	2500					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32239.9	0.000365367	726.254	0.4075	0.40
75	2623					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32243.3	0.00170521	739.206	1	
1	2740					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32252.3	0.00147315	954.052	1	
1	2851					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32253.6	0.000126074	158.999	1	
1	2973					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32253.9	7.36451e-05	134.665	0.157	
1	3104					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32254.4	0.000110658	149.032	1	
1	3220					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32254.6	0.000104624	308.518	1	
1	3343					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32254.8	0.000145389	362.429	1	
1	3460					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2940	32254.9	0.000142767	27.2533	0.6395	0.63
95	3517					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:47:13,055] Trial 91 finished with value: 72.17155050000585 and parameters: {'changepoint_prior_scale': 1.0241126114670316, 'changepoint_range': 0.8015823431693414, 'seasonality_prior_scale': 7.504277503946234, 'holidays_prior_scale': 9.019409526027435, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 5}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28474.5	0.083305	6150.42	1	
1	128					
a0	# evals	Notes			alpha	alph
	199	29464.4	0.00890214	2094.67	1	
1	242					
a0	# evals	Notes			alpha	alph
	299	30053.1	0.0885989	3902.07	1	
1	359					
a0	# evals	Notes			alpha	alph
	399	30432.2	0.0171602	5665.46	0.4432	
1	477					
a0	# evals	Notes			alpha	alph
	499	30588.5	0.0158946	1111.01	1	
1	591					
a0	# evals	Notes			alpha	alph
	599	31158.9	0.082837	11914.9	0.7928	0.79
28	714					
a0	# evals	Notes			alpha	alph
	699	31298.1	0.024726	12420.3	1	
1	833					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31594.4	0.00313142	4798.19	0.0685	
1	957					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31821.7	0.024483	24527.6	0.6594	0.65
94	1081					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31966.4	0.003695	874.046	1	
1	1211					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31993.7	0.0129844	8646.86	1	
1	1335					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32037.5	0.00512571	1698.33	1	
1	1458					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32071	0.0017134	575.127	1	
1	1584					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32079.5	0.000262146	350.012	1	
1	1701					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32096	0.00819237	5073.35	1	
1	1819					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32126.9	0.0116466	1819.2	1	
1	1935					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32135.9	0.000320778	373.626	1	
1	2055					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32146.8	0.00104133	285.567	1	
1	2165					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32157.3	0.0054921	589.75	1	
1	2290					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32166.4	0.011326	531.419	1	
1	2416					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	2099	32171.3	0.00116461	124.88	1.827	0.018
27	2538					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32172.7	0.00179463	1841.65	0.09031	
1	2654					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32173.7	0.00189597	744.589	0.6126	0.061
26	2789					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32174.3	0.00031857	387.639	0.3656	
1	2916					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32175.1	0.000866711	955.7	0.2178	
1	3030					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32176.9	0.00112055	1241.32	1	
1	3155					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32177.6	0.000135391	65.6608	0.9755	0.97
55	3270					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2714	32177.7	0.00021149	42.2845	1	
1	3288					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:47:26,226] Trial 92 finished with value: 75.33098075065695 and parameters: {'changepoint_prior_scale': 0.7492715157264023, 'changepoint_range': 0.8057157184996538, 'seasonality_prior_scale': 4.684134865155297, 'holidays_prior_scale': 9.489393465744534, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 4}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28549.9	0.0168117	5905.07	0.6132	0.61
32	129					
a0	# evals	Notes				
	199	29569.4	0.0249706	11294.4	0.2534	0.25
34	249					
a0	# evals	Notes				
	299	30032.8	0.00683205	2795.29	0.6767	0.67
67	366					
a0	# evals	Notes				
	399	30539.8	0.00577659	16092.1	0.1344	
1	484					
a0	# evals	Notes				
	499	30815.1	0.00648538	6504.43	0.606	0.06
06	605					
a0	# evals	Notes				
	599	30930.2	0.0274031	2670.05	1	
1	719					
a0	# evals	Notes				
	699	31068.8	0.000486004	909.571	1	
1	842					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31168.7	0.014472	1917.44	1	
1	959					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31392	0.00100276	3626.48	1	
1	1075					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31517.7	0.00484874	2402.64	0.3931	
1	1195					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31813.7	0.00872202	2281.56	1	
1	1312					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31990.5	0.00459786	3442.58	0.4614	0.46
14	1434					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32074.8	0.0052179	9962.81	1	
1	1550					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32123	0.00921855	3030.86	1	
1	1671					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32149.3	0.000286429	1302.47	1	
1	1791					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32162.3	0.00256028	2286.49	1	
1	1922					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32172.6	0.00251974	431.913	1	
1	2038					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32188.9	0.0197092	7013.49	0.4287	
1	2161					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32194.4	0.000868834	893.954	1	
1	2284					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32202.8	0.00272217	3196.82	1	
1	2402					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

1	2099	32205.6	0.000480607	379.21	1	
	2526					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32208.4	0.000181327	1346.98	0.5358	0.53
58	2642					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32209.8	0.00116825	242.858	1	
1	2753					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32210.6	0.000107473	1290.79	0.05603	
1	2875					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32211.6	0.00261336	909.029	1	
1	2998					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32212.9	0.00115106	133.201	1	
1	3119					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	32213.2	0.00015419	67.0314	1	
1	3230					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	32213.6	0.000395983	675.009	0.2557	0.25
57	3367					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	32214	0.00023651	203.145	0.8104	0.081
04	3494					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2984	32214.2	9.95043e-06	58.6051	0.05483	
1	3596					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance


```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
[I 2023-11-27 19:47:40,520] Trial 93 finished with value: 71.36698690334632 and parameters: {'changepoint_prior_scale': 0.2880184089230413, 'changepoint_range': 0.8005133946904543, 'seasonality_prior_scale': 6.824894453147424, 'holidays_prior_scale': 7.86519556671971, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 11 with value: 70.66361400790363.
```

```
INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.
```

```
/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.
```

```
components = components.append(new_comp)
```

```
Initial log joint probability = -188.93
```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	28401.6	0.00494154	9998.52	0.05198	
1	129					
a0	# evals	Notes				
	199	29567.3	0.0420853	4523.51	1	
1	247					
a0	# evals	Notes				
	299	30150	0.00871928	2676.36	1	
1	364					
a0	# evals	Notes				
	399	30775.7	0.0103754	3864.81	0.9799	0.97
99	473					
a0	# evals	Notes				
	499	31060	0.0421669	7485.44	1	
1	585					
a0	# evals	Notes				
	599	31377.3	0.0200514	10932.7	0.3532	0.35
32	702					
a0	# evals	Notes				
	699	31668.5	0.00305666	5987.73	0.2395	0.23
95	830					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	799	31830.9	0.00266056	2260.71	1	
1	948					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31946.8	0.00980863	4293.22	1	
1	1063					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	32021.4	0.0131074	1186.52	1	
1	1185					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	32099.3	0.00299207	2371.85	1	
1	1307					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	32141.6	0.00419683	5721.19	1	
1	1429					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	32159.6	0.00514206	1686.63	1.91	0.1
91	1561					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	32166.1	0.00557628	2425.93	0.7039	0.070
39	1680					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	32174.3	0.00113387	5982.56	0.003055	
1	1800					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	32201.1	0.00131189	660.447	0.7316	0.73
16	1922					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32213.9	0.000471763	361.773	1	
1	2033					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	32220.7	0.000383928	391.46	0.4828	0.96
74	2153					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	32224.4	0.0107893	656.361	1	
1	2278					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	32231.8	0.0121834	4652.16	1	
1	2397					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

74	2099	32237.3	0.00810312	889.666	0.4674	0.46
	2512					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	32240.2	0.00910861	2443.25	1	
1	2629					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	32241.5	0.000644969	436.393	1	
1	2745					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	32242	0.000727383	641.279	1	
1	2865					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	32242.6	0.00013034	64.9272	0.909	0.9
09	2983					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	32242.9	0.000523486	148.119	0.2214	0.22
14	3102					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2613	32242.9	0.000395897	36.6727	1	
1	3119					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:47:53,704] Trial 94 finished with value: 72.94899632900108 and parameters: {'changepoint_prior_scale': 1.2288381393823524, 'changepoint_range': 0.8026911006461571, 'seasonality_prior_scale': 7.829772461340104, 'holidays_prior_scale': 0.13113483404530962, 'seasonality_mode': 'multiplicative', 'weekly_seasonality': 6, 'yearly_seasonality': 6}. Best is trial 11 with value: 70.66361400790363.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

Iter	log prob	dx	grad	alpha	alph
------	----------	----	------	-------	------

a0	# evals	Notes				
	99	27498.9	0.185789	14160.3	1	
1	114					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	199	28289.4	0.000735613	2028.02	1	
1	227					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	299	28751.8	0.0194209	2574.79	1	
1	345					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	28878.6	0.00422128	2828.31	1	
1	454					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	28986.3	0.0198381	5051.86	1	
1	562					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	29046.9	0.00249661	1020.63	0.2605	0.85
23	669					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	29088.9	0.00410673	2633.26	0.5817	0.58
17	780					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	29136.9	0.00103054	258.883	1	
1	901					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	29158.2	0.00288268	2780.45	0.2861	0.28
61	1015					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	29193.1	0.0418498	742.925	0.9473	0.94
73	1129					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	29224.7	0.0038665	1767.42	0.4432	
1	1247					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	29244.6	0.00425577	494.309	1	
1	1359					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	29247.4	0.000165879	119.039	1	
1	1493					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

```

1393      29257.7    5.0712e-05      331.41    1.502e-07      0.0
01      1648 LS failed, Hessian reset
1399      29258.1    0.000950748      265.693      1
1      1655
Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
1441      29259.3    3.45101e-05      178.259    9.294e-08      0.0
01      1748 LS failed, Hessian reset
1486      29259.8    6.88635e-05      393.604    2.53e-07      0.0
01      1845 LS failed, Hessian reset
1499      29259.9    8.26358e-05      170.407      1
1      1861
Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
1599      29260.7    0.000190762      170.14      0.2313      0.23
13      1985
Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
1678      29261.5    6.72379e-07      140.227      0.1383      0.66
81      2092

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:48:02,976] Trial 95 finished with value: 67.41184769583354 and parameters: {'changepoint_prior_scale': 0.018810276661314074, 'changepoint_range': 0.8072094046806385, 'seasonality_prior_scale': 5.774919022676731, 'holidays_prior_scale': 7.034873398496787, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 5}. Best is trial 95 with value: 67.41184769583354.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
99      26691.3    0.0356421      8558.46      0.4848
1      117
Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
199      28788.8    0.0142459      2387.92      1

```

1	224						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	299	29238.4	0.032343	1572.05	1		
1	332						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	399	29600.3	0.0138247	2994.84	1		
1	439						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	499	29818.3	0.00209815	638.909	1		
1	550						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	599	30254.2	0.01675	1269.46	1		
1	658						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	699	30472	0.00126549	891.697	1		
1	768						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	799	30525.8	0.0194508	1521.98	1		
1	879						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	899	30651.3	0.00442032	1395.7	0.4549		
1	988						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	999	30691.2	0.00305498	1125.05	0.4484	0.44	
84	1099						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1099	30766.1	0.00631868	972.082	1		
1	1209						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1199	30786.6	0.000403344	417.986	1		
1	1319						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1299	30825.9	0.00774506	657.301	1		
1	1428						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1399	30873.7	0.0361221	942.455	1		
1	1540						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1499	30993	0.00821439	2625.22	1		
1	1645						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31083.6	0.00165889	4355.93	0.5453	0.54
53	1754					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	31104.9	0.000216655	723.994	0.6556	0.65
56	1864					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	31145.1	0.00313999	1343	1	
1	1973					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	31162.3	0.000759003	417.179	0.07116	
1	2078					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	31171.9	0.00746673	470.168	1	
1	2184					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31196	0.0199697	1450.37	1	
1	2293					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31271.7	0.112837	3095.94	1	
1	2408					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31301.8	0.0147885	789.286	1	
1	2521					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31325.7	0.00119774	296.073	1	
1	2627					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	31335.6	0.00561981	928.298	1	
1	2734					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	31357	0.00860103	769.663	1	
1	2845					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	31370.2	0.000948315	300.279	1	
1	2952					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	31384.7	5.35131e-05	179.243	1	
1	3065					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	2899	31392.3	0.0192681	608.971	1	
1	3172					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	31399.8	0.000524589	427.16	0.3497	0.34
97	3281					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	31403.1	0.000180327	186.909	0.5702	0.57
02	3388					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	31406.5	0.00435654	673.82	0.3965	
1	3499					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	31409.8	0.00470831	440.354	0.5115	0.51
15	3606					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3399	31413.9	0.00326526	265.505	1	
1	3714					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	31421.8	0.000881365	363.781	1	
1	3826					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	31424	4.42037e-05	89.3618	1	
1	3934					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	31425.3	0.000330881	144.073	0.7499	0.74
99	4048					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	31426.7	0.00205285	188.701	1	
1	4167					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	31433.2	0.0134465	382.95	1	
1	4271					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	31439.2	0.0011206	298.524	1	
1	4378					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	31444	0.000974248	257.797	0.5126	
1	4489					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	4199	31445.4	0.00038478	106.643	2.115	0.21
15	4603					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	31446.6	0.000996584	226.21	0.7019	0.70
19	4717					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	31447.9	0.000345031	99.0011	0.7855	0.78
55	4827					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4441	31447.9	9.18669e-06	51.5003	2.855e-07	0.0
01	4927	LS failed, Hessian reset				
	4475	31448	1.1973e-05	73.0182	7.173e-08	0.0
01	5015	LS failed, Hessian reset				
	4499	31448	2.58741e-05	35.364	0.4579	
1	5043					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4599	31448.3	0.000176411	53.913	0.9799	0.97
99	5157					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4699	31448.5	0.000159068	106.569	1	
1	5274					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4799	31448.7	0.000321337	189.414	1	
1	5384					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4899	31448.9	0.000645873	145.189	10	
1	5505					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4999	31449.7	0.000672807	166.167	1	
1	5622					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5099	31450.3	4.09611e-05	65.5314	0.9943	0.99
43	5731					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5165	31450.4	1.20798e-05	65.4337	1.64e-07	0.0
01	5853	LS failed, Hessian reset				
	5199	31450.4	3.47935e-05	63.6431	0.3398	
1	5897					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	5299	31450.6	0.000132954	61.7658	0.7033	0.70
33	6010					
	Iter	log prob	dx	grad	alpha	alph

```

a0 # evals Notes
5383 31450.8 2.35213e-05 142.1 1.656e-07 0.0
01 6159 LS failed, Hessian reset
5399 31450.8 0.000243464 157.348 1
1 6178
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5499 31450.9 0.000124235 91.7245 0.4647 0.46
47 6302
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
5535 31451 2.6498e-06 19.411 0.2892
1 6343

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:48:27,727] Trial 96 finished with value: 73.1965826636695 and parameters: {'changepoint_prior_scale': 0.09893470844027746, 'changepoint_range': 0.8051066744470349, 'seasonality_prior_scale': 6.393348839698919, 'holidays_prior_scale': 6.13976236929454, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 4}. Best is trial 95 with value: 67.41184769583354.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
99 28046 0.0183854 7367.83 1
1 114
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
199 28897.4 0.00479348 2532.85 0.3702
1 225
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes
299 29694.5 0.00839911 3129.02 1
1 335
Iter log prob ||dx|| ||grad|| alpha alph
a0 # evals Notes

```

	399	29895.1	0.00265236	1943.48	1	
1	441					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	30223.5	0.0338338	2367.27	1	
1	549					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	30807.6	0.114171	8739.44	1	
1	663					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	31172	0.0198987	2002.42	1	
1	776					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	31320.4	0.0137996	1267.01	1	
1	887					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	31452.8	0.0536002	5848.04	0.1468	
1	994					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	31528.4	0.0278421	1760.18	1	
1	1106					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	31592.4	0.00336232	1361.25	0.3076	
1	1213					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	31710.3	0.0036435	1339.73	0.8193	0.81
93	1323					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	31735.5	0.00971499	3102.61	1	
1	1429					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	31791.7	0.00163974	775.195	1	
1	1533					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	31821.3	0.00371464	1675.37	1	
1	1638					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1599	31882.4	0.00577547	1685.43	1	
1	1743					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	32063.6	0.0818335	5132.73	1	

1	1855						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1799	32249.6	0.0177095	3898.01	1		
1	1961						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1899	32279.4	0.0022326	1920.35	0.3768	0.37	
68	2066						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1999	32288.5	0.00182628	416.817	1		
1	2174						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2099	32292.7	0.00149333	1074.13	1		
1	2278						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2199	32299.3	0.00870527	314.835	1		
1	2384						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2299	32310.6	0.000481432	207.344	1		
1	2502						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2399	32312.9	0.00867415	531.76	1		
1	2609						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2499	32315.2	0.000316384	181.948	0.8256	0.82	
56	2715						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2599	32317	0.000486088	144.353	1		
1	2822						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2699	32317.9	0.00154738	276.884	0.2828		
1	2933						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2799	32320	0.00192529	407.903	1		
1	3042						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2899	32320.6	8.5063e-05	39.8053	1		
1	3150						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	2936	32320.7	7.70789e-06	23.0624	0.4467	0.95	
26	3192						

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:48:40,756] Trial 97 finished with value: 82.25254350609148 and parameters: {'changepoint_prior_scale': 0.4537407485151298, 'changepoint_range': 0.8143064318787425, 'seasonality_prior_scale': 5.719075438275202, 'holidays_prior_scale': 5.336487478596382, 'seasonality_mode': 'additive', 'weekly_seasonality': 8, 'yearly_seasonality': 2}. Best is trial 95 with value: 67.41184769583354.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	99	26962.8	0.074494	7347.45	1	
1	117					
a0	# evals	Notes				
	199	28735.7	0.0408346	1529.94	1	
1	229					
a0	# evals	Notes				
	299	29491.9	0.00776794	2679.56	1	
1	339					
a0	# evals	Notes				
	399	29738.1	0.0177527	3020.22	0.7111	0.71
11	447					
a0	# evals	Notes				
	499	30288.4	0.00163145	659.863	1	
1	556					
a0	# evals	Notes				
	599	30394.8	0.014668	2890.3	1	
1	661					
a0	# evals	Notes				
	699	30436.4	0.00510378	848.517	1	

1	771						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	799	30788	0.0081361	844.255	1		
1	876						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	899	30901.2	0.00689265	1934.85	1		
1	983						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	999	30943.1	0.0135109	576.827	0.9612	0.96	
12	1090						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1099	30988.5	0.0307047	2980.92	1		
1	1205						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1199	31047.4	0.0097646	1716.67	1		
1	1319						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1299	31145.1	0.0417414	6288.5	0.285		
1	1432						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1399	31442.7	0.00443562	916.458	0.6364	0.63	
64	1536						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1499	31479.2	0.00235864	394.027	1		
1	1644						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1599	31498	0.00223142	1878.76	0.4358		
1	1753						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1699	31518.8	0.00462715	871.982	0.6331	0.63	
31	1861						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1799	31550.5	0.00943833	1645.34	1		
1	1966						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1899	31568	0.00137837	364.618	1		
1	2073						
	Iter	log prob	dx	grad	alpha	alph	
a0	# evals	Notes					
	1999	31594.8	0.0103402	845.888	0.6178	0.61	
78	2184						

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	31612.1	0.00269099	580.576	1	
1	2288					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	31623	0.000940331	93.8801	1	
1	2407					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	31630.7	0.00386914	446.159	1	
1	2518					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	31647.4	0.000548143	329.13	1	
1	2629					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	31671	0.0037753	1005.29	1	
1	2740					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	31678	0.00121727	177.491	0.8094	0.80
94	2847					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	31682.6	0.00146587	358.102	1	
1	2959					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	31689	0.0069241	299.939	1	
1	3069					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	31702.5	0.065581	2923.56	1	
1	3173					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2999	31715.3	0.00261208	357.967	1	
1	3282					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3099	31722.3	0.00391926	373.191	1	
1	3393					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3199	31728.6	0.0128488	2324.4	0.2143	
1	3504					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3299	31734.4	6.78405e-05	175.121	0.2793	0.27
93	3627					
	Iter	log prob	dx	grad	alpha	alph

a0	# evals	Notes				
	3399	31735.9	0.000231007	164.646	0.872	0.8
72	3739					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3499	31738.4	0.000675985	832.167	0.05709	
1	3849					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3599	31740.3	0.000175901	138.754	1	
1	3960					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3699	31742.2	0.00429549	248.598	1	
1	4068					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3799	31748.3	0.00998099	283.882	1	
1	4179					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3899	31751.6	0.000821854	90.4878	1	
1	4295					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	3999	31753.5	0.00298968	213.699	1	
1	4407					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	31754.7	0.00242663	115.122	1	
1	4511					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4199	31755.6	0.0040711	486.152	1	
1	4623					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4299	31756.9	0.0111623	218.087	1	
1	4743					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	31758.7	0.00729212	243.045	0.9708	0.97
08	4848					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4499	31760.9	0.000421712	128.57	1	
1	4954					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4599	31761.7	0.000429361	171.616	1	
1	5060					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				


```

4699      31762.1      0.00552401      140.305      1
1  5166
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
4799      31762.4      0.00015374      96.9499      0.4645      0.46
45  5282
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
4899      31762.7      0.00956372      296.839      1
1  5396
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
4999      31762.9      0.000460962      153.77      1
1  5514
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
5008      31763      5.10509e-06      28.411      7.108e-08      0.0
01  5582 LS failed, Hessian reset
Optimization terminated normally:

```

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:49:02,516] Trial 98 finished with value: 75.2978875775049 and parameters: {'changepoint_prior_scale': 0.18366284156050083, 'changepoint_range': 0.8069535381393853, 'seasonality_prior_scale': 7.2968320514777805, 'holidays_prior_scale': 6.712872542969474, 'seasonality_mode': 'additive', 'weekly_seasonality': 7, 'yearly_seasonality': 3}. Best is trial 95 with value: 67.41184769583354.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -188.93

```

  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  99      28727.2      0.0266733      2772.38      1
1  119
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  199      29683.2      0.00260682      1859.23      0.3976      0.39
76  227
  Iter      log prob      ||dx||      ||grad||      alpha      alph

```

a0	# evals	Notes				
	299	30848.9	0.0296398	3450.14	0.6911	0.69
11	335					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	399	31331.7	0.000367247	1196.52	0.7009	0.70
09	440					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	499	31643.3	0.0383054	3631.64	1	
1	544					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	599	32291.3	0.149202	9430.94	1	
1	650					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	699	32838.5	0.00804455	2988.29	1	
1	751					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	799	33544.4	0.0035533	4063.41	0.3916	
1	855					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	899	33743.2	0.00776944	2674.18	1	
1	965					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	999	34434.4	0.0326937	17306.9	0.2103	0.21
03	1074					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1099	35358.8	0.0187181	5228.08	1	
1	1180					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1199	35643.5	0.00495583	2139.78	1	
1	1287					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1299	35765.5	0.000685376	1582.81	0.866	0.8
66	1393					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1399	35814.2	0.010309	2587.69	1	
1	1503					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1499	35879.8	0.00302424	2817.74	0.2852	
1	1611					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				

	1599	35950.7	0.0101147	4416.27	0.3206	0.32
06	1724					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1699	36205.1	0.0359896	3807.71	1	
1	1834					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	36242.6	0.00209993	795.251	0.4891	
1	1940					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1899	36301.6	0.00284712	5590.74	1	
1	2046					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1999	36321.7	0.00327729	2617.52	1	
1	2155					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2099	36358.4	0.00239042	1020.25	1	
1	2262					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2199	36373.9	0.00468181	2650.69	1	
1	2369					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2299	36395	0.000694977	1680.65	0.5669	0.56
69	2479					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2399	36407.6	0.0266779	9060.17	1	
1	2593					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2499	36439.9	0.00797839	1486.55	0.78	0.
78	2700					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2599	36457.7	0.00150229	893.429	0.757	0.7
57	2808					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2699	36466.2	0.00622513	1758.46	1	
1	2915					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2799	36471.8	0.00341946	560.931	1	
1	3023					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2899	36475.1	0.00227706	753.418	1	

```

1      3129
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  2999      36481.7      0.000362601      578.501      1
1      3241
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3099      36484.5      0.000207268      241.724      1
1      3355
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3199      36486.4      0.00106409      163.192      1
1      3468
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3299      36487.2      6.0838e-05      258.362      1
1      3583
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3334      36487.5      1.08737e-05      133.978      6.265e-08      0.0
01  3674 LS failed, Hessian reset
  3399      36487.7      6.5663e-05      120.07      0.8259      0.82
59  3758
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3423      36487.8      1.44824e-05      175.557      2.845e-08      0.0
01  3826 LS failed, Hessian reset
  3499      36488.2      0.000219824      120.342      1
1      3913
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3599      36492.2      0.00223685      421.414      1
1      4020
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3645      36492.5      5.84852e-06      117.076      5.312e-08      0.0
01  4116 LS failed, Hessian reset
  3699      36492.6      0.00278366      639.461      1
1      4177
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3799      36497.1      0.00478518      665.061      1
1      4282
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3899      36504.4      0.00199255      535.944      1
1      4389
  Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
  3967      36507.7      1.32567e-05      231.499      6.546e-08      0.0
01  4509 LS failed, Hessian reset
  3999      36509.1      0.00129579      1295.41      1
1      4544

```

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4099	36510.1	0.0002958	146.554	1	
1	4662					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4199	36510.7	1.28893e-05	68.9584	0.7842	0.78
42	4780					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4236	36510.7	3.29943e-06	63.1764	3.802e-08	0.0
01	4870	LS failed, Hessian reset				
	4249	36510.8	4.50883e-06	78.1435	4.149e-08	0.0
01	4933	LS failed, Hessian reset				
	4299	36510.9	0.0013019	548.607	1	
1	4994					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4399	36511.3	7.0449e-06	93.1232	0.8733	0.87
33	5115					
	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	4406	36511.3	1.20967e-05	117.542	8.747e-08	0.0
01	5169	LS failed, Hessian reset				
	4462	36511.3	1.60843e-06	60.2102	0.2466	
1	5238					

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

[I 2023-11-27 19:49:26,161] Trial 99 finished with value: 126.70620212263746 and parameters: {'changepoint_prior_scale': 0.04005489113533709, 'changepoint_range': 0.8432750859263163, 'seasonality_prior_scale': 0.5453796879278086, 'holidays_prior_scale': 8.88885332462951, 'seasonality_mode': 'additive', 'weekly_seasonality': 9, 'yearly_seasonality': 7}. Best is trial 95 with value: 67.41184769583354.

INFO:fbprophet:Disabling daily seasonality. Run prophet with daily_seasonality=True to override this.

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

components = components.append(new_comp)

Initial log joint probability = -489.748

	Iter	log prob	dx	grad	alpha	alph
--	------	----------	----	------	-------	------

	a0	# evals	Notes				
		99	28454.9	0.0366333	7756.64	0.2355	0.23
55		130					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		199	29178.8	0.0133018	1393.36	1	
1		242					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		299	29721	0.0788593	10516.3	0.3223	
1		351					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		399	29919.1	0.00382907	1923.16	1	
1		454					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		499	30055.6	0.0356731	2201.43	1	
1		566					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		599	30226	0.00400461	1108.99	1	
1		675					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		699	30376.8	0.00428819	874.46	1	
1		785					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		799	30527.1	0.0179137	1577.24	1	
1		888					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		899	30587.6	0.0110126	1144.75	1	
1		998					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		999	30609.1	0.00104883	568.559	0.4522	
1		1113					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		1099	30617.9	0.0154505	1533.18	1	
1		1230					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		1199	30665.6	0.00245098	876.625	0.8526	0.85
26		1341					
		Iter	log prob	dx	grad	alpha	alph
	a0	# evals	Notes				
		1247	30719.4	0.000218105	1123.89	7.67e-08	0.0
01		1434	LS failed, Hessian reset				
		1299	30744.9	0.0030267	2399.76	0.7106	0.71
06		1489					

	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1337	30760.4	0.000186889	720.28	2.686e-07	0.0
01	1566	LS failed, Hessian reset				
	1399	30769.8	0.00365992	1080.99	1	
1	1647					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1471	30775.1	0.000113092	267.515	2.618e-07	0.0
01	1799	LS failed, Hessian reset				
	1499	30776.4	0.00216527	464.341	0.9095	0.90
95	1831					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1500	30776.4	5.08646e-05	328.696	1.095e-07	0.0
01	1875	LS failed, Hessian reset				
	1592	30781.1	8.9324e-05	353.592	7.174e-08	0.0
01	2037	LS failed, Hessian reset				
	1599	30781.6	0.000189542	153.651	1	
1	2045					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1685	30784.7	8.48074e-05	463.945	3.611e-07	0.0
01	2187	LS failed, Hessian reset				
	1699	30785.8	0.000207032	264.245	1	
1	2202					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1799	30787.2	0.000339944	261.852	0.9378	0.93
78	2328					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1836	30788.9	5.11596e-05	305.513	8.9e-08	0.0
01	2424	LS failed, Hessian reset				
	1899	30790.4	2.41985e-05	251.217	0.5167	0.51
67	2499					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	1948	30790.8	0.000127115	360.522	4.72e-07	0.0
01	2601	LS failed, Hessian reset				
	1999	30791.2	3.19203e-05	145.201	1	
1	2663					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2066	30791.8	4.00352e-05	236.224	8.239e-08	0.0
01	2789	LS failed, Hessian reset				
	2099	30792.1	0.000121081	243.639	1	
1	2827					
a0	Iter	log prob	dx	grad	alpha	alph
a0	# evals	Notes				
	2139	30792.2	5.05435e-05	137.367	2.714e-07	0.0
01	2928	LS failed, Hessian reset				
	2199	30792.3	1.53446e-05	149.34	0.6386	0.63

```

86      3014
      Iter      log prob      ||dx||      ||grad||      alpha      alph
a0 # evals Notes
    2210      30792.3  2.28375e-06    140.983  1.514e-08      0.0
01      3076 LS failed, Hessian reset
    2219      30792.3  7.38856e-07     144.97    0.3257
1      3088

```

Optimization terminated normally:

Convergence detected: relative gradient magnitude is below tolerance

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

    components = components.append(new_comp)

```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

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```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

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```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

    components = components.append(new_comp)

```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

    components = components.append(new_comp)

```

```

/Users/inakolluvishnusai/tensorflow/env/lib/python3.8/site-packages/fbprophet/forecaster.py:891: FutureWarning: The frame.append method is deprecated and will be removed from pandas in a future version. Use pandas.concat instead.

```

```

    components = components.append(new_comp)

```


=== MODEL 1 ===

Testing Mean Squared Error: 3.002

Mean absolute percentage error: 572930147170.532

Testing Mean Absolute Error: 1.260

=====

=== MODEL 2 ===

Testing Mean Squared Error: 478584.224

Mean absolute percentage error: 31706019469639224.000

Testing Mean Absolute Error: 599.293

=====

=== MODEL 3 ===

Testing Mean Squared Error: 834.966

Mean absolute percentage error: 0.386

Testing Mean Absolute Error: 25.757

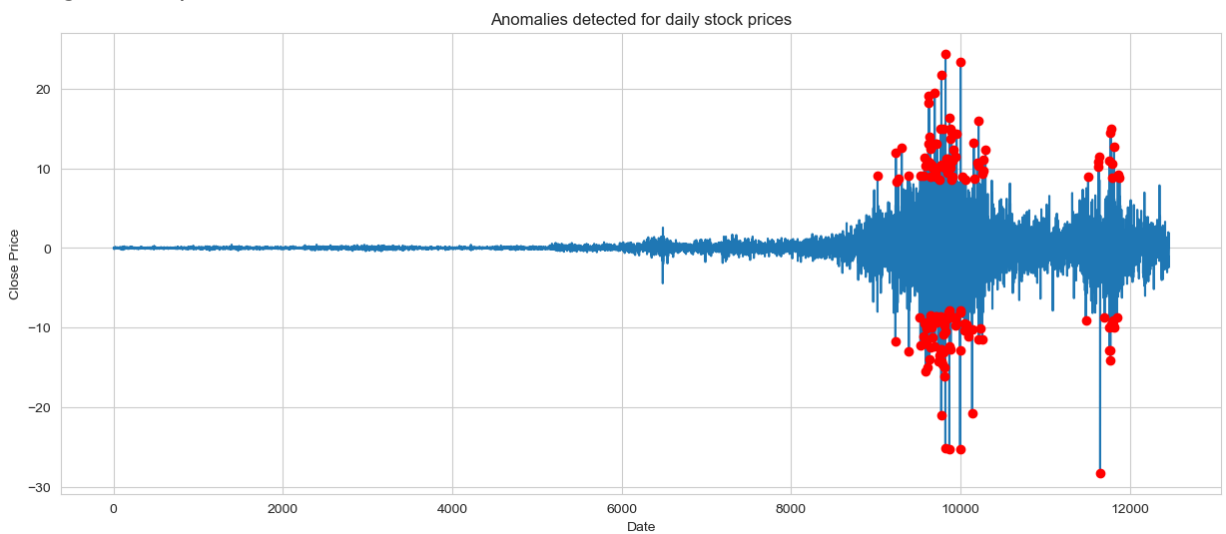
=====

-----USING ARIMA-----

--

length of squared_errors 12458

length of preds 12458



In []:

Applying LSTM

In [109... df=data

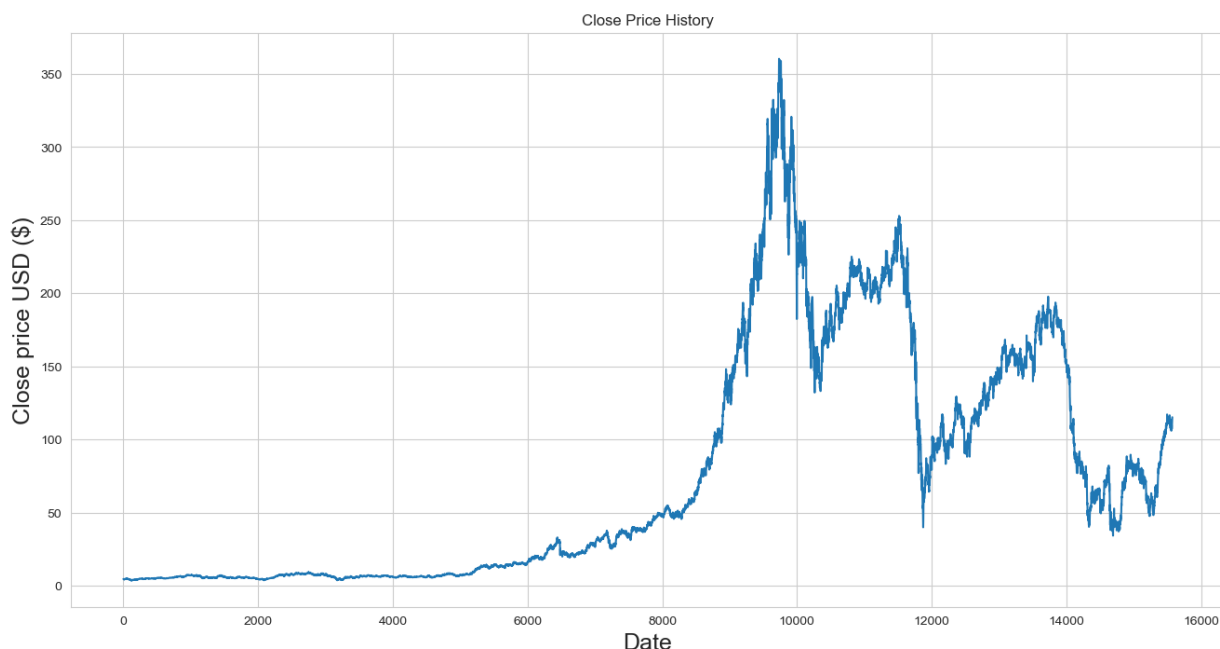
In [82]: df.head()

```
Out[82]:
```

	Date	Open	High	Low	Close	Adj Close	Volume
0	1962-01-02	4.691347	4.769536	4.644433	4.675709	0.784582	345317
1	1962-01-03	4.652252	4.652252	4.613158	4.628796	0.776710	236606
2	1962-01-04	4.628796	4.667890	4.534969	4.574063	0.767526	294159
3	1962-01-05	4.574063	4.581882	4.378590	4.456780	0.747846	436442
4	1962-01-08	4.456780	4.456780	4.316039	4.448961	0.746534	495593

We are focusing on close column since that is the stock price by the end of the day

```
In [83]: plt.figure(figsize=(16,8))
plt.title('Close Price History')
plt.plot(df['Close'])
plt.xlabel('Date', fontsize=18)
plt.ylabel('Close price USD ($)', fontsize=18)
plt.show()
```



```
In [84]: import math

data_close = df.filter(['Close'])
dataset = data_close.values

#get the number of rows to train the model on
training_data_len = math.ceil(len(dataset) * .8)
training_data_len
```

```
Out[84]: 12459
```

```
In [85]: #We are scaling the data using MinMaxScaler
from sklearn.preprocessing import MinMaxScaler
from keras.models import Sequential
from keras.layers import Dense, LSTM

scaler = MinMaxScaler(feature_range=(0,1))
scaled_data = scaler.fit_transform(dataset)

scaled_data
```

```
Out[85]: array([[0.00337453],
               [0.00324305],
               [0.00308966],
               ...,
               [0.30933583],
               [0.30720592],
               [0.31331538]])
```

```
In [86]: #create the training dataset
from tqdm import tqdm

train_data = scaled_data[0:training_data_len, :]
x_train = [] #Two empty lists are initialized to store the input sequence
y_train = []

for i in tqdm(range(60, len(train_data))): #The loop starts from index 60
    x_train.append(train_data[i-60:i, 0]) #for each iteration, we are appen
    y_train.append(train_data[i, 0]) #The corresponding value at the next t
    if i<=61 :
        print(x_train)
        print(y_train)
```

```
100%|████████████████████████████████████████| 12399/12399 [00:00<00:00, 69849
6.71it/s]
```

```
[array([0.00337453, 0.00324305, 0.00308966, 0.00276098, 0.00273907,
        0.0028048 , 0.00287054, 0.00289245, 0.00271715, 0.00284863,
        0.00295819, 0.00267333, 0.0028048 , 0.00291437, 0.00295819,
        0.00271715, 0.00295819, 0.00282671, 0.00278289, 0.0028048 ,
        0.00302393, 0.00341835, 0.0033307 , 0.00339644, 0.0031554 ,
        0.00328688, 0.00341835, 0.003506 , 0.00344027, 0.00344027,
        0.00359365, 0.00370322, 0.00390043, 0.00381278, 0.00370322,
        0.0036813 , 0.00363748, 0.003506 , 0.0033307 , 0.00341835,
        0.00335262, 0.00359365, 0.0036813 , 0.00370322, 0.003506 ,
        0.00359365, 0.00379086, 0.00398808, 0.00400999, 0.00394425,
        0.00387852, 0.00392234, 0.00400999, 0.0038566 , 0.0038566 ,
        0.00383469, 0.00376895, 0.00394425, 0.00372513, 0.00383469)])]
[0.003922341579841285]
[array([0.00337453, 0.00324305, 0.00308966, 0.00276098, 0.00273907,
        0.0028048 , 0.00287054, 0.00289245, 0.00271715, 0.00284863,
        0.00295819, 0.00267333, 0.0028048 , 0.00291437, 0.00295819,
        0.00271715, 0.00295819, 0.00282671, 0.00278289, 0.0028048 ,
        0.00302393, 0.00341835, 0.0033307 , 0.00339644, 0.0031554 ,
        0.00328688, 0.00341835, 0.003506 , 0.00344027, 0.00344027,
        0.00359365, 0.00370322, 0.00390043, 0.00381278, 0.00370322,
        0.0036813 , 0.00363748, 0.003506 , 0.0033307 , 0.00341835,
        0.00335262, 0.00359365, 0.0036813 , 0.00370322, 0.003506 ,
        0.00359365, 0.00379086, 0.00398808, 0.00400999, 0.00394425,
        0.00387852, 0.00392234, 0.00400999, 0.0038566 , 0.0038566 ,
        0.00383469, 0.00376895, 0.00394425, 0.00372513, 0.00383469)], arr
ay([0.00324305, 0.00308966, 0.00276098, 0.00273907, 0.0028048 ,
        0.00287054, 0.00289245, 0.00271715, 0.00284863, 0.00295819,
        0.00267333, 0.0028048 , 0.00291437, 0.00295819, 0.00271715,
        0.00295819, 0.00282671, 0.00278289, 0.0028048 , 0.00302393,
        0.00341835, 0.0033307 , 0.00339644, 0.0031554 , 0.00328688,
        0.00341835, 0.003506 , 0.00344027, 0.00344027, 0.00359365,
        0.00370322, 0.00390043, 0.00381278, 0.00370322, 0.0036813 ,
        0.00363748, 0.003506 , 0.0033307 , 0.00341835, 0.00335262,
        0.00359365, 0.0036813 , 0.00370322, 0.003506 , 0.00359365,
        0.00379086, 0.00398808, 0.00400999, 0.00394425, 0.00387852,
        0.00392234, 0.00400999, 0.0038566 , 0.0038566 , 0.00383469,
        0.00376895, 0.00394425, 0.00372513, 0.00383469, 0.00392234)])]
[0.003922341579841285, 0.003900428806545786]
```

```
In [87]: x_train, y_train = np.array(x_train), np.array(y_train)
```

```
In [88]: x_train = np.reshape(x_train, (x_train.shape[0], x_train.shape[1], 1))
x_train.shape
```

```
Out[88]: (12399, 60, 1)
```

```
In [27]: import numpy as np
from sklearn.model_selection import GridSearchCV
from keras.models import Sequential
from keras.layers import LSTM, Dense, Dropout
from keras.wrappers.scikit_learn import KerasRegressor
from sklearn.model_selection import TimeSeriesSplit
```

```

In [28]: # Function to create the LSTM model
def create_lstm_model(neurons=50, dropout_rate=0.3, dense_units=512):
    model = Sequential([
        LSTM(neurons, return_sequences=True, input_shape=(x_train.shape[1],
        LSTM(neurons, return_sequences=False),
        Dense(units=dense_units),
        Dropout(dropout_rate),
        Dense(units=256),
        Dropout(dropout_rate),
        Dense(units=64),
        Dense(1)
    ])
    model.compile(optimizer='adam', loss='mean_squared_error')
    return model

# Wrap Keras model so it can be used by scikit-learn
lstm_model = KerasRegressor(build_fn=create_lstm_model, epochs=25, batch_

# Define the hyperparameter grid
param_grid = {
    'neurons': [50, 100, 150],
    'dropout_rate': [0.3, 0.5],
    'dense_units': [512, 1024]
}

# Use time series cross-validation
tscv = TimeSeriesSplit(n_splits=5)

# Create and fit the grid search with progress and results printing
grid = GridSearchCV(estimator=lstm_model, param_grid=param_grid, scoring=
grid_result = grid.fit(x_train, y_train)

# Print the best parameters
print("Best parameters: ", grid_result.best_params_)

# Print results for each set of hyperparameters
cv_results = grid_result.cv_results_
for mean_score, params in zip(cv_results["mean_test_score"], cv_results["
    print(f"Mean Test Score: {mean_score}, Parameters: {params}")

```

```
/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/1322782
125.py:17: DeprecationWarning: KerasRegressor is deprecated, use Sci-Ker
as (https://github.com/adriangb/scikeras) instead. See https://www.adria
ngb.com/scikeras/stable/migration.html for help migrating.
    lstm_model = KerasRegressor(build_fn=create_lstm_model, epochs=25, bat
ch_size=50, verbose=0)
2023-11-27 19:49:51.372899: I tensorflow/core/common_runtime/pluggable_d
evice/pluggable_device_factory.cc:306] Could not identify NUMA node of p
latform GPU ID 0, defaulting to 0. Your kernel may not have been built w
ith NUMA support.
2023-11-27 19:49:51.373179: I tensorflow/core/common_runtime/pluggable_d
evice/pluggable_device_factory.cc:272] Created TensorFlow device (/job:l
ocalhost/replica:0/task:0/device:GPU:0 with 0 MB memory) -> physical Plu
ggableDevice (device: 0, name: METAL, pci bus id: <undefined>)
Fitting 5 folds for each of 12 candidates, totalling 60 fits
Metal device set to: Apple M1
2023-11-27 19:49:52.613439: W tensorflow/core/platform/profile_utils/cpu
_utils.cc:128] Failed to get CPU frequency: 0 Hz
2023-11-27 19:49:53.669995: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
2023-11-27 19:49:53.884395: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
2023-11-27 19:49:54.640590: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
2023-11-27 19:49:57.243410: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
2023-11-27 19:49:59.240629: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
2023-11-27 19:50:38.099871: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
2023-11-27 19:50:38.144770: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
2023-11-27 19:50:38.743064: I tensorflow/core/grappler/optimizers/custom
_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU i
s enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=50; total time
= 49.8s
```

```
2023-11-27 19:50:42.035537: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:50:42.173547: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:50:42.923683: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:50:45.021847: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:50:46.978271: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:52:01.581303: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:52:01.626626: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:52:02.257754: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=50; total time = 1.4min
```

```
2023-11-27 19:52:05.608729: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:52:05.747060: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:52:06.502796: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:52:08.569434: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:52:10.615470: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:53:57.502991: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:53:57.549088: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:53:58.178195: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=50; total time = 1.9min
```

```
2023-11-27 19:54:01.296374: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:54:01.435051: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:54:02.198324: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:54:04.424375: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:54:06.527663: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:56:26.587860: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:56:26.633600: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:56:27.261959: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=50; total time = 2.5min
```

```
2023-11-27 19:56:30.442524: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:56:30.581708: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:56:31.378379: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:56:33.630220: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:56:35.706758: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:59:28.206006: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:59:28.251577: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:59:28.901337: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=50; total time = 3.0min
```



```
2023-11-27 19:59:32.978554: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:59:33.224923: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:59:33.970325: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:59:36.263122: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 19:59:38.350739: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:00:19.041627: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:00:19.087721: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:00:19.730857: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=100; total time = 50.9s
```

```
2023-11-27 20:00:23.018141: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:00:23.156642: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:00:23.966261: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:00:26.203160: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:00:28.297339: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:01:42.253557: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:01:42.299961: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:01:42.946737: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=100; total time = 1.4min
```

```
2023-11-27 20:01:46.389917: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:01:46.532323: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:01:47.350784: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:01:49.605095: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:01:51.649753: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:03:39.797813: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:03:39.843306: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:03:40.496037: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=100; total time = 2.0min
```

```
2023-11-27 20:03:43.771600: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:03:43.912114: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:03:44.772785: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:03:47.274985: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:03:49.499370: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:06:11.466684: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:06:11.512774: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:06:12.152971: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=100; total time = 2.5min
```

```
2023-11-27 20:06:15.595589: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:06:15.771970: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:06:16.553901: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:06:18.770030: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:06:20.871884: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:09:17.138650: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:09:17.183895: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:09:17.872189: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=100; total time = 3.1min
```

```
2023-11-27 20:09:21.909003: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:09:22.167409: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:09:22.962400: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:09:25.608849: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:09:27.862493: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:10:09.221374: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:10:09.267142: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:10:09.953997: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=150; total time = 52.2s
```

```
2023-11-27 20:10:13.604128: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:10:13.742820: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:10:14.615261: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:10:17.108477: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:10:19.344828: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:11:35.002618: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:11:35.048278: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:11:35.743347: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=150; total time = 1.4min
```

```
2023-11-27 20:11:39.133242: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:11:39.272815: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:11:40.143937: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:11:42.660445: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:11:44.869961: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:13:34.505607: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:13:34.551888: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:13:35.253345: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=150; total time = 2.0min
```

```
2023-11-27 20:13:38.845449: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:13:38.994098: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:13:39.896533: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:13:42.440288: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:13:44.684961: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:16:10.707331: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:16:10.753265: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:16:11.451134: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=150; total time = 2.6min
```

```
2023-11-27 20:16:14.797221: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:16:14.976725: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:16:15.815609: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:16:18.268376: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:16:20.477305: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:19:19.194050: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:19:19.239660: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:19:19.919390: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.3, neurons=150; total time = 3.1min
```



```
2023-11-27 20:19:23.422439: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:19:23.566603: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:19:24.470878: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:19:27.066934: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:19:29.253650: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:20:10.109336: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:20:10.155874: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:20:10.858613: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=50; total time = 51.0s
```

```
2023-11-27 20:20:14.219534: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:20:14.360370: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:20:15.221243: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:20:17.653367: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:20:19.908423: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:21:33.977413: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:21:34.023775: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:21:34.720544: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=50; total time = 1.4min
```

```
2023-11-27 20:21:38.292701: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:21:38.433517: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:21:39.334923: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:21:41.821281: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:21:44.301668: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:23:34.358321: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:23:34.403753: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:23:35.197636: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=50; total time = 2.0min
```

```
2023-11-27 20:23:38.764709: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:23:38.907721: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:23:39.921366: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:23:42.904430: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:23:45.415663: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:26:08.905496: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:26:08.951358: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:26:09.630123: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=50; total time = 2.6min
```

```
2023-11-27 20:26:12.979557: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:26:13.117096: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:26:14.133487: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:26:17.031042: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:26:19.537552: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:29:15.567493: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:29:15.613222: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:29:16.405979: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=50; total time = 3.1min
```

```
2023-11-27 20:29:20.316065: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:29:20.454971: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:29:21.473487: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:29:24.470312: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:29:26.669508: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:30:08.735171: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:30:08.780870: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:30:09.583424: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=100; total time = 53.1s
```



```
2023-11-27 20:30:13.133668: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:30:13.310016: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:30:14.285708: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:30:17.288727: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:30:19.808851: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:31:35.114814: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:31:35.160727: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:31:35.848505: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=100; total time = 1.4min
```

```
2023-11-27 20:31:39.400943: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:31:39.541696: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:31:40.554848: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:31:43.564084: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:31:46.109717: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:33:36.386411: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:33:36.432664: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:33:37.227862: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=100; total time = 2.0min
```

```
2023-11-27 20:33:40.873104: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:33:41.018880: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:33:42.047817: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:33:45.054020: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:33:47.587512: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:36:11.213726: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:36:11.259390: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:36:12.046798: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=100; total time = 2.6min
```

```
2023-11-27 20:36:15.835557: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:36:15.982256: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:36:17.012747: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:36:20.039576: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:36:22.533721: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:39:21.893782: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:39:21.939209: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:39:22.746439: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=100; total time = 3.2min
```

```
2023-11-27 20:39:26.430721: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:39:26.617739: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:39:27.608147: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:39:30.621502: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:39:33.163800: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:40:15.753237: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:40:15.799005: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:40:16.603930: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=150; total time = 53.8s
```

```
2023-11-27 20:40:20.451262: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:40:20.645909: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:40:21.641025: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:40:24.682038: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:40:27.229514: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:41:44.687933: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:41:44.733798: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:41:45.550099: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=150; total time = 1.5min
```

```
2023-11-27 20:41:49.226333: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:41:49.365421: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:41:50.392677: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:41:53.412624: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:41:55.985411: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:43:46.710752: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:43:46.756704: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:43:47.550648: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=150; total time = 2.0min
```

```
2023-11-27 20:43:51.427460: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:43:51.583469: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:43:52.614799: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:43:55.631961: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:43:58.168644: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:46:25.729105: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:46:25.776250: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:46:26.587901: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=150; total time = 2.7min
```

```
2023-11-27 20:46:30.299747: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:46:30.444729: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:46:31.464617: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:46:34.504139: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:46:37.061184: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:49:36.285053: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:49:36.331214: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:49:37.139703: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=512, dropout_rate=0.5, neurons=150; total time = 3.2min
```

```
2023-11-27 20:49:41.311489: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:49:41.455991: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:49:42.491706: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:49:45.863187: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:49:48.417008: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:50:31.736216: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:50:31.781764: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:50:32.587070: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.3, neurons=50; total time = 55.5s
```



```
2023-11-27 20:50:36.335756: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:50:36.475992: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:50:37.504856: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:50:40.502990: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:50:43.059632: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:51:59.000650: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:51:59.047584: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:51:59.854890: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.3, neurons=50; total time = 1.5min
```

```
2023-11-27 20:52:03.502713: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:52:03.653590: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:52:04.705115: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:52:07.796447: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:52:10.432284: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:54:01.376123: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:54:01.422272: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:54:02.257312: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.3, neurons=50; total time = 2.0min
```

```
2023-11-27 20:54:05.981355: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:54:06.130122: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:54:07.176977: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:54:10.245137: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:54:12.819461: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:56:37.177901: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:56:37.223729: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:56:38.016651: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
[CV] END .....dense_units=1024, dropout_rate=0.3, neurons=50; total time = 2.6min
```

```
2023-11-27 20:56:41.712625: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:56:41.861754: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:56:42.921996: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:56:45.941318: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:56:48.514289: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:59:46.467590: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:59:46.513769: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
2023-11-27 20:59:47.297496: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```
[CV] END .....dense_units=1024, dropout_rate=0.3, neurons=50; total time = 3.2min
```

```
2023-11-27 20:59:51.388173: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:59:51.530202: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:59:52.585229: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:59:55.723611: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 20:59:58.263365: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:00:41.657422: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:00:41.707195: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:00:42.451191: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=100; total time = 55.2s
```

```
2023-11-27 21:00:46.185376: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:00:46.325988: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:00:47.501365: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:00:50.504767: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:00:53.299207: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:02:10.464636: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:02:10.512953: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:02:11.437182: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=100; total time = 1.5min
```



```
2023-11-27 21:02:15.668451: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:02:15.812098: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:02:17.026920: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:02:20.855096: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:02:23.500754: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:04:16.355706: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:04:16.401385: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:04:17.404123: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=100; total time = 2.1min
```

```
2023-11-27 21:04:21.554951: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:04:21.695379: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:04:22.742496: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:04:25.926361: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:04:28.858164: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:06:54.840380: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:06:54.886338: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:06:55.704690: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=100; total time = 2.6min
```

```
2023-11-27 21:06:59.711564: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:06:59.849412: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:07:00.930621: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:07:03.955937: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:07:06.857053: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:10:09.295520: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:10:09.342815: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:10:10.289159: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=100; total time = 3.2min
```

```
2023-11-27 21:10:14.355598: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:10:14.501877: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:10:15.707783: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:10:19.925534: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:10:22.509266: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:11:07.050021: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:11:07.106363: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:11:08.104983: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=150; total time = 58.0s
```

```
2023-11-27 21:11:12.274043: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:11:12.416364: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:11:13.702271: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:11:17.898515: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:11:20.900680: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:12:41.009214: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:12:41.055375: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:12:42.043894: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=150; total time = 1.6min
```

```
2023-11-27 21:12:46.254850: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:12:46.454467: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:12:47.696453: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:12:51.924948: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:12:54.907154: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:14:48.318947: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:14:48.364828: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:14:49.342413: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=150; total time = 2.1min
```

```
2023-11-27 21:14:53.540160: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:14:53.687987: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:14:54.930514: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:14:58.843528: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:15:01.796874: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:17:29.623158: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:17:29.668618: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:17:30.595603: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=150; total time = 2.7min
```

```
2023-11-27 21:17:35.090859: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:17:35.235656: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:17:36.489296: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:17:40.439560: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:17:43.725379: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:20:46.724293: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:20:46.769655: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:20:47.771068: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.3, neurons=150; total time = 3.3min
```

```
2023-11-27 21:20:52.103929: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:20:52.251690: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:20:53.481023: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:20:57.278211: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:00.332371: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:44.345372: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:44.391201: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:45.379445: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.5, neurons=50; total time = 57.5s
```

```
2023-11-27 21:21:49.858017: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:50.072444: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:51.311598: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:55.212367: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:21:58.318678: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:23:17.086154: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:23:17.132041: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:23:18.150962: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.5, neurons=50; total time = 1.5min
```



```
2023-11-27 21:23:22.389804: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:23:22.603400: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:23:23.876282: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:23:27.968368: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:23:30.955477: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:25:23.226668: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:25:23.278468: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:25:24.421830: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.5, neurons=50; total time = 2.1min
```

```
2023-11-27 21:25:29.264536: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:25:29.405365: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:25:30.711876: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:25:34.726843: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:25:38.151169: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:28:06.072253: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:28:06.118289: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:28:07.157118: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.5, neurons=50; total time = 2.7min
```

```
2023-11-27 21:28:11.480061: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:28:11.639854: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:28:12.915154: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:28:17.455228: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:28:20.698046: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:31:20.500147: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:31:20.545333: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:31:21.599549: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END .....dense_units=1024, dropout_rate=0.5, neurons=50; total time = 3.2min
```

```
2023-11-27 21:31:26.188157: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:31:26.337012: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:31:27.706731: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:31:31.865753: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:31:34.931868: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:32:20.007409: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:32:20.053395: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:32:21.123881: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=100; total time = 1.0min
```

```
2023-11-27 21:32:26.365015: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:32:26.510208: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:32:27.982916: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:32:33.101369: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:32:36.570442: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:34:00.071568: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:34:00.118450: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:34:01.126790: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=100; total time = 1.7min
```

```
2023-11-27 21:34:05.437313: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:34:05.578592: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:34:06.923854: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:34:10.960992: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:34:14.292273: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:36:09.854613: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:36:09.902259: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:36:10.908248: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=100; total time = 2.2min
```



```
2023-11-27 21:36:15.319824: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:36:15.459105: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:36:16.771184: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:36:20.758188: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:36:23.935195: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:38:51.148731: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:38:51.195176: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:38:52.296499: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=100; total time = 2.7min
```

```
2023-11-27 21:38:56.766701: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:38:56.909043: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:38:58.245842: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:39:02.319020: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:39:05.731907: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:42:07.580386: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:42:07.628983: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:42:08.692237: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=100; total time = 3.3min
```

```
2023-11-27 21:42:13.416527: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:42:13.637379: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:42:14.959411: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:42:19.252481: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:42:22.863271: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:43:09.080234: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:43:09.127779: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:43:10.165602: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=150; total time = 1.0min
```

```
2023-11-27 21:43:14.841383: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:43:14.982874: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:43:16.473305: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:43:21.088782: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:43:24.386480: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:44:44.893156: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:44:44.939289: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:44:45.977594: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=150; total time = 1.6min
```

```
2023-11-27 21:44:50.646404: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:44:50.787825: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:44:52.246647: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:44:57.070027: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:45:00.586640: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:46:56.978302: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:46:57.023516: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:46:58.126583: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=150; total time = 2.2min
```

```
2023-11-27 21:47:02.835536: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:47:02.996435: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:47:04.494006: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:47:09.112619: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:47:12.607488: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:49:43.127889: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:49:43.175234: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:49:44.293818: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=150; total time = 2.8min
```

```
2023-11-27 21:49:49.385246: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:49:49.537502: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:49:51.065643: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:49:55.890730: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:49:59.206080: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:53:08.038373: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:53:08.085071: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:53:09.237905: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
[CV] END ....dense_units=1024, dropout_rate=0.5, neurons=150; total time = 3.4min
```

```
2023-11-27 21:53:13.862688: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:53:14.017689: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:53:15.516464: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:53:20.345525: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 21:53:23.693749: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
```

```

Best parameters: {'dense_units': 1024, 'dropout_rate': 0.5, 'neurons': 100}
Mean Test Score: -0.00022981258416333853, Parameters: {'dense_units': 512, 'dropout_rate': 0.3, 'neurons': 50}
Mean Test Score: -0.00023265090954962048, Parameters: {'dense_units': 512, 'dropout_rate': 0.3, 'neurons': 100}
Mean Test Score: -0.00031238225805387687, Parameters: {'dense_units': 512, 'dropout_rate': 0.3, 'neurons': 150}
Mean Test Score: -0.0011394457829151938, Parameters: {'dense_units': 512, 'dropout_rate': 0.5, 'neurons': 50}
Mean Test Score: -0.0007349742583479148, Parameters: {'dense_units': 512, 'dropout_rate': 0.5, 'neurons': 100}
Mean Test Score: -0.0006688208370541634, Parameters: {'dense_units': 512, 'dropout_rate': 0.5, 'neurons': 150}
Mean Test Score: -0.0003502932719848587, Parameters: {'dense_units': 1024, 'dropout_rate': 0.3, 'neurons': 50}
Mean Test Score: -0.0004274266254324931, Parameters: {'dense_units': 1024, 'dropout_rate': 0.3, 'neurons': 100}
Mean Test Score: -0.0003279466409539443, Parameters: {'dense_units': 1024, 'dropout_rate': 0.3, 'neurons': 150}
Mean Test Score: -0.0006630808644482239, Parameters: {'dense_units': 1024, 'dropout_rate': 0.5, 'neurons': 50}
Mean Test Score: -0.00013951909898693096, Parameters: {'dense_units': 1024, 'dropout_rate': 0.5, 'neurons': 100}
Mean Test Score: -0.0002163748829106228, Parameters: {'dense_units': 1024, 'dropout_rate': 0.5, 'neurons': 150}

```

```
In [ ]: print("Best parameters: ", grid_result.best_params_)
```

```
In [89]: #Build the LSTM Model
```

```

model_LSTM = Sequential()
model_LSTM.add(LSTM(50, return_sequences=True, input_shape = (x_train.shape[1], x_train.shape[2])))
model_LSTM.add(LSTM(50, return_sequences=False))

model_LSTM.add(Dense(units = 1024))
model_LSTM.add(Dropout(0.3))
model_LSTM.add(Dense(units = 256))
model_LSTM.add(Dropout(0.3))
model_LSTM.add(Dense(units = 64))
model_LSTM.add(Dense(1))

```

```
In [90]: model_LSTM.compile(optimizer='adam', loss='mean_squared_error')
```

```
In [91]: model_LSTM.fit(x_train,y_train, batch_size=50, epochs=25)
```

Epoch 1/25

```
2023-11-27 23:19:06.499767: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 23:19:06.647730: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 23:19:08.259044: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 23:19:13.648037: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
2023-11-27 23:19:17.362141: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.
248/248 [=====] - 33s 69ms/step - loss: 8.9562e-04
Epoch 2/25
248/248 [=====] - 9s 37ms/step - loss: 2.1484e-04
Epoch 3/25
248/248 [=====] - 9s 36ms/step - loss: 1.8844e-04
Epoch 4/25
248/248 [=====] - 9s 36ms/step - loss: 2.0417e-04
Epoch 5/25
248/248 [=====] - 9s 36ms/step - loss: 1.8870e-04
Epoch 6/25
248/248 [=====] - 10s 40ms/step - loss: 1.5356e-04
Epoch 7/25
248/248 [=====] - 9s 36ms/step - loss: 1.5065e-04
Epoch 8/25
248/248 [=====] - 9s 37ms/step - loss: 1.4473e-04
Epoch 9/25
248/248 [=====] - 9s 36ms/step - loss: 1.6766e-04
Epoch 10/25
248/248 [=====] - 8s 34ms/step - loss: 1.3194e-04
Epoch 11/25
248/248 [=====] - 9s 36ms/step - loss: 1.0758e-04
Epoch 12/25
248/248 [=====] - 9s 35ms/step - loss: 1.2227e-04
Epoch 13/25
248/248 [=====] - 9s 36ms/step - loss: 1.0403e-04
```

```

Epoch 14/25
248/248 [=====] - 8s 34ms/step - loss: 9.1932e-05
Epoch 15/25
248/248 [=====] - 9s 34ms/step - loss: 8.9228e-05
Epoch 16/25
248/248 [=====] - 9s 35ms/step - loss: 1.9308e-04
Epoch 17/25
248/248 [=====] - 9s 35ms/step - loss: 6.6045e-05
Epoch 18/25
248/248 [=====] - 9s 35ms/step - loss: 6.6036e-05
Epoch 19/25
248/248 [=====] - 9s 34ms/step - loss: 7.8866e-05
Epoch 20/25
248/248 [=====] - 9s 35ms/step - loss: 8.2406e-05
Epoch 21/25
248/248 [=====] - 9s 35ms/step - loss: 7.8180e-05
Epoch 22/25
248/248 [=====] - 8s 34ms/step - loss: 8.7303e-05
Epoch 23/25
248/248 [=====] - 8s 34ms/step - loss: 1.0887e-04
Epoch 24/25
248/248 [=====] - 9s 34ms/step - loss: 8.1025e-05
Epoch 25/25
248/248 [=====] - 9s 34ms/step - loss: 7.5665e-05

```

Out[91]: <keras.callbacks.History at 0x4e60c5b50>

```

In [124... #create testing dataset

test_data = scaled_data[training_data_len-60: , :]

x_test=[]
y_test_lstm = dataset[training_data_len: , :]

for i in range(60, len(test_data)):
    x_test.append(test_data[i-60:i, 0])

```

```

In [125... x_test = np.array(x_test)
x_test = np.reshape(x_test, (x_test.shape[0], x_test.shape[1], 1))

```

```

In [126... training_data_len

```


Out[126]: 12459

In [95]: *#get the model's predicted price values*

```
predictions = model_LSTM.predict(x_test)
predictions = scaler.inverse_transform(predictions)
```

2023-11-27 23:23:08.697206: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.

2023-11-27 23:23:08.747240: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.

2023-11-27 23:23:09.949269: I tensorflow/core/grappler/optimizers/custom_graph_optimizer_registry.cc:114] Plugin optimizer for device_type GPU is enabled.

98/98 [=====] - 6s 31ms/step

In [96]: *#root mean squared error*

```
rmse=np.sqrt(np.mean(((predictions- y_test_lstm)**2)))

rmse
```

Out[96]: 6.140506835818694

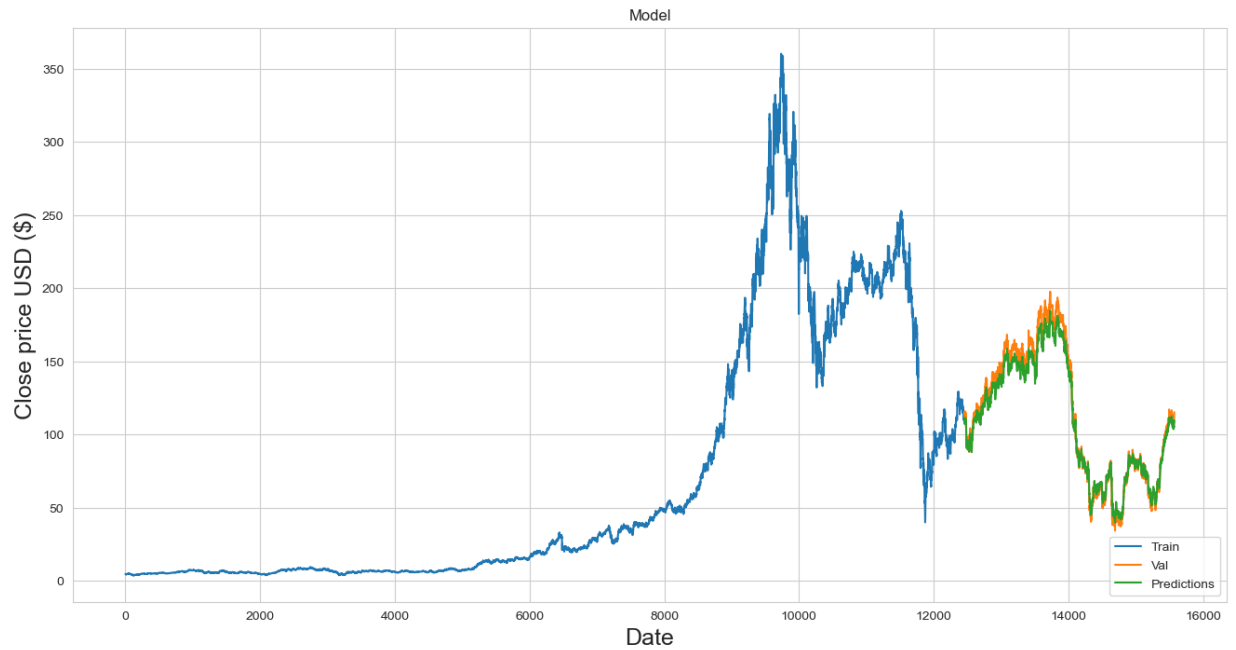
In [133]: train = data[:training_data_len]
valid = data[training_data_len:]
valid['Predictions'] = predictions

```
plt.figure(figsize=(16,8))
plt.title('Model')
plt.xlabel('Date', fontsize=18)
plt.ylabel('Close price USD ($)', fontsize=18)
plt.plot(train['Close'])
plt.plot(valid[['Close', 'Predictions']])
plt.legend(['Train', 'Val', 'Predictions'], loc='lower right')
plt.show()
```

/var/folders/2k/pr4jqy2902x5znsf_qbfp2340000gn/T/ipykernel_13243/1792867338.py:3: SettingWithCopyWarning:

A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
valid['Predictions'] = predictions



In [98]: valid

Out[98]:	Date	Open	High	Low	Close	Adj Close	Volume	Pr
12459	2011-06-29	111.331291	111.751633	110.490601	111.451393	85.309723	6459382	1
12460	2011-06-30	111.631538	113.493065	111.451393	113.252869	86.688667	7500411	10
12461	2011-07-01	113.252869	115.654839	112.592323	115.294540	88.251450	9303781	10
12462	2011-07-05	115.414642	115.594788	113.553116	114.333755	87.516006	6978240	1
12463	2011-07-06	113.913406	114.694046	113.853363	114.393806	87.561989	5259367	1
...
15568	2023-11-06	109.290001	111.879997	108.540001	111.779999	111.779999	4893700	10
15569	2023-11-07	111.360001	112.930000	110.860001	111.800003	111.800003	4179900	10
15570	2023-11-08	112.199997	114.050003	111.989998	113.849998	113.849998	4840400	10
15571	2023-11-09	114.349998	114.769997	112.930000	113.089996	113.089996	4618200	10
15572	2023-11-10	113.730003	115.559998	113.190002	115.269997	115.269997	3497700	10

3114 rows x 8 columns

```
In [99]: mae = mean_absolute_error(y_test_lstm, predictions)
mae_mean = np.mean(mae)
print(f"Mean Absolute Error (MAE): {mae_mean}")

# Calculate Mean Squared Error (MSE)
mse = mean_squared_error(y_test_lstm, predictions)
mse_mean = np.mean(mse)
print(f"Mean Squared Error (MSE): {mse_mean}")
```

Mean Absolute Error (MAE): 4.934367591574843

Mean Squared Error (MSE): 37.7058242007361

```
In [184... '''#Predict the next 30 days
last_date = pd.to_datetime(df['Date']).max()
future_dates = pd.date_range(last_date + pd.DateOffset(days=1), periods=3)
future_features = np.tile(X.iloc[-1].values, (30, 1)) # Repeat the last
future_predictions = model.predict(future_features)'''

# Creating DataFrame for predictions
entire_data=pd.read_csv("/Users/inakolluvishnusai/Downloads/GE.csv")
last_date = pd.to_datetime(entire_data['Date']).max()
future_dates = pd.date_range(last_date + pd.DateOffset(days=1), periods=3)
future_predictions_df = pd.DataFrame(index=future_dates, columns=['Close'])

# Using the last 60 days of data for predicting the future
last_60_days = scaled_data[-60:].reshape((1, 60, 1))

for i in range(30):
    next_day_prediction = model_LSTM.predict(last_60_days)
    last_60_days = np.roll(last_60_days, shift=-1, axis=1)
    last_60_days[0, -1, 0] = next_day_prediction
    future_predictions_df.iloc[i, 0] = scaler.inverse_transform(next_day_
```

```

1/1 [=====] - 0s 40ms/step
1/1 [=====] - 0s 45ms/step
1/1 [=====] - 0s 40ms/step
1/1 [=====] - 0s 39ms/step
1/1 [=====] - 0s 43ms/step
1/1 [=====] - 0s 52ms/step
1/1 [=====] - 0s 36ms/step
1/1 [=====] - 0s 39ms/step
1/1 [=====] - 0s 37ms/step
1/1 [=====] - 0s 43ms/step
1/1 [=====] - 0s 41ms/step
1/1 [=====] - 0s 40ms/step
1/1 [=====] - 0s 27ms/step
1/1 [=====] - 0s 25ms/step
1/1 [=====] - 0s 25ms/step
1/1 [=====] - 0s 30ms/step
1/1 [=====] - 0s 28ms/step
1/1 [=====] - 0s 39ms/step
1/1 [=====] - 0s 31ms/step
1/1 [=====] - 0s 29ms/step
1/1 [=====] - 0s 31ms/step
1/1 [=====] - 0s 27ms/step
1/1 [=====] - 0s 27ms/step
1/1 [=====] - 0s 26ms/step
1/1 [=====] - 0s 28ms/step
1/1 [=====] - 0s 26ms/step
1/1 [=====] - 0s 26ms/step
1/1 [=====] - 0s 28ms/step
1/1 [=====] - 0s 28ms/step
1/1 [=====] - 0s 24ms/step

```

```

In [185... entire_data
# Drop unnecessary columns
columns_to_drop = ['Open', 'High', 'Low', 'Adj Close', 'Volume']
entire_data = entire_data.drop(columns=columns_to_drop, errors='ignore')

# Convert 'Close' column to numeric (if it's not already)
entire_data['Close'] = pd.to_numeric(entire_data['Close'], errors='coerce')

```

```

In [186... # Set 'Date' column as the index
entire_data.set_index('Date', inplace=True)

```

```

In [187... entire_data

```

Out [187]:

Close

Date	
1962-01-02	4.675709
1962-01-03	4.628796
1962-01-04	4.574063
1962-01-05	4.456780
1962-01-08	4.448961
...	...
2023-11-06	111.779999
2023-11-07	111.800003
2023-11-08	113.849998
2023-11-09	113.089996
2023-11-10	115.269997

15573 rows × 1 columns

In [188... future_predictions_df

Out[188]:

	Close
2023-11-11	114.316551
2023-11-12	114.666069
2023-11-13	115.01387
2023-11-14	115.355606
2023-11-15	115.68869
2023-11-16	116.011612
2023-11-17	116.323555
2023-11-18	116.624245
2023-11-19	116.91362
2023-11-20	117.191879
2023-11-21	117.459267
2023-11-22	117.716141
2023-11-23	117.962875
2023-11-24	118.199867
2023-11-25	118.427475
2023-11-26	118.646126
2023-11-27	118.856117
2023-11-28	119.057854
2023-11-29	119.251656
2023-11-30	119.437859
2023-12-01	119.616745
2023-12-02	119.78862
2023-12-03	119.953766
2023-12-04	120.112434
2023-12-05	120.264923
2023-12-06	120.411438
2023-12-07	120.552216
2023-12-08	120.687477
2023-12-09	120.817474
2023-12-10	120.94236

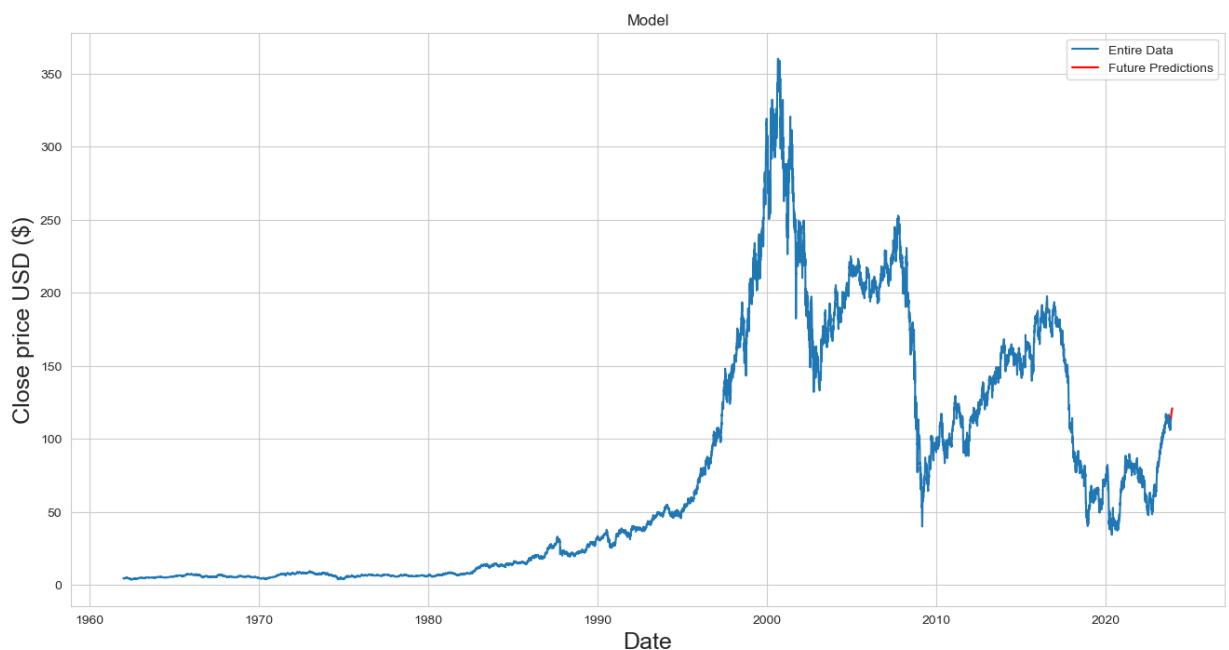
```
In [189... entire_data.index = pd.to_datetime(entire_data.index).tz_localize(None)
future_predictions_df.index = pd.to_datetime(future_predictions_df.index)

# Plotting both dataframes on the same plot
plt.figure(figsize=(16, 8))
plt.title('Model')
plt.xlabel('Date', fontsize=18)
plt.ylabel('Close price USD ($)', fontsize=18)

# Plotting entire_data in blue
plt.plot(entire_data.index, entire_data['Close'], label='Entire Data')

# Plotting future_predictions_df in red
plt.plot(future_predictions_df.index, future_predictions_df['Close'], label='Future Predictions')

plt.legend()
plt.show()
```



In []:

Random Forest

```
In [258... from sklearn.model_selection import train_test_split
X= df[['Open', 'High', 'Low', 'Adj Close', 'Volume']]
y= df['Close']
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
```

```
In [259... from sklearn.model_selection import train_test_split
from sklearn import metrics
from sklearn.preprocessing import StandardScaler
from sklearn.linear_model import LinearRegression
from sklearn.ensemble import RandomForestClassifier
from sklearn.ensemble import RandomForestRegressor
from sklearn.metrics import make_scorer, mean_squared_error
scale = StandardScaler()
X_train = scale.fit_transform(X_train)
X_test = scale.transform(X_test)
```

```
In [260... print(X_train.shape)
print(y_train.shape)
```

```
(12458, 5)
(12458,)
```

```
In [261... param_grid = {
    'n_estimators': [100, 200, 300, 400, 500],
    'max_depth': [None, 10, 20, 30],
}

# Create a RandomForestRegressor
rf_model = RandomForestRegressor(random_state=42)

# Define mean squared error as the scoring metric
scorer = make_scorer(mean_squared_error, greater_is_better=False)

# Create GridSearchCV
grid_search = GridSearchCV(estimator=rf_model, param_grid=param_grid, scoring=scorer)
grid_search.fit(X_train, y_train)

# Print the best parameters and best score
print("Best parameters: ", grid_search.best_params_)
print("Best MSE: ", -grid_search.best_score_)
```

```
Best parameters: {'max_depth': 10, 'n_estimators': 300}
Best MSE: 249.63931093012224
```

```
In [263... model_RF = RandomForestRegressor(n_estimators=300, random_state=42, max_depth=10)
model_RF.fit(X_train, y_train)
```

```
Out[263]: ▼ RandomForestRegressor
RandomForestRegressor(max_depth=10, n_estimators=300, random_state=42)
```

```
In [264... predict = model_RF.predict(X_test)
print(predict.shape)
```

```
(3115,)
```

```
In [265... print("Mean Absolute Error:", round(metrics.mean_absolute_error(y_test, p
print("Mean Squared Error:", round(metrics.mean_squared_error(y_test, pre
print("Root Mean Squared Error:", round(np.sqrt(metrics.mean_squared_erro
print("(R^2) Score:", round(metrics.r2_score(y_test, predict), 4))
print(f'Train Score : {model_RF.score(X_train, y_train) * 100:.2f}% and T
errors = abs(predict - y_test)
mape = 100 * (errors / y_test)
accuracy = 100 - np.mean(mape)
print('Accuracy:', round(accuracy, 2), '%.')
```

Mean Absolute Error: 0.8542

Mean Squared Error: 1.2556

Root Mean Squared Error: 1.1205

(R^2) Score: 0.9994

Train Score : 100.00% and Test Score : 97.47% using Random Tree Regressor.

Accuracy: 99.03 %.

```
In [266... train_RF
```


Out [266]:

	Date	Open	High	Low	Close	Adj Close	Volume
0	1962-01-02	4.691347	4.769536	4.644433	4.675709	0.784582	345317
1	1962-01-03	4.652252	4.652252	4.613158	4.628796	0.776710	236606
2	1962-01-04	4.628796	4.667890	4.534969	4.574063	0.767526	294159
3	1962-01-05	4.574063	4.581882	4.378590	4.456780	0.747846	436442
4	1962-01-08	4.456780	4.456780	4.316039	4.448961	0.746534	495593
...
12453	2011-06-21	111.691589	113.733261	111.451393	112.952621	86.458824	9790182
12454	2011-06-22	112.232033	112.952621	111.451393	111.451393	85.309723	8006329
12455	2011-06-23	110.130310	110.430550	108.148682	110.370506	84.482353	11549605
12456	2011-06-24	110.610703	110.670753	107.908485	107.908485	82.597816	13459671
12457	2011-06-27	108.148682	110.610703	108.088631	109.770012	84.022705	7734453

12458 rows × 7 columns

In [267... `y_train.head(20)`

```
Out[267]: 0      4.675709
          1      4.628796
          2      4.574063
          3      4.456780
          4      4.448961
          5      4.472417
          6      4.495874
          7      4.503693
          8      4.441142
          9      4.488055
         10      4.527150
         11      4.425504
         12      4.472417
         13      4.511512
         14      4.527150
         15      4.441142
         16      4.527150
         17      4.480236
         18      4.464598
         19      4.472417
          Name: Close, dtype: float64
```

```
In [268...] valid_RF
```

Out [268]:

	Date	Open	High	Low	Close	Adj Close	Volume
12458	2011-06-28	110.070259	110.730797	109.049423	110.730797	84.758156	6444445
12459	2011-06-29	111.331291	111.751633	110.490601	111.451393	85.309723	6459382
12460	2011-06-30	111.631538	113.493065	111.451393	113.252869	86.688667	7500411
12461	2011-07-01	113.252869	115.654839	112.592323	115.294540	88.251450	9303781
12462	2011-07-05	115.414642	115.594788	113.553116	114.333755	87.516006	6978240
...
15568	2023-11-06	109.290001	111.879997	108.540001	111.779999	111.779999	4893700
15569	2023-11-07	111.360001	112.930000	110.860001	111.800003	111.800003	4179900
15570	2023-11-08	112.199997	114.050003	111.989998	113.849998	113.849998	4840400
15571	2023-11-09	114.349998	114.769997	112.930000	113.089996	113.089996	4618200
15572	2023-11-10	113.730003	115.559998	113.190002	115.269997	115.269997	3497700

3115 rows × 7 columns

```

In [320... train_RF = data[:training_data_len-1]
valid_RF = data[training_data_len-1:]

plt.figure(figsize=(16, 8))
plt.title('Model')
plt.xlabel('Date', fontsize=18)
plt.ylabel('Close price USD ($)', fontsize=18)

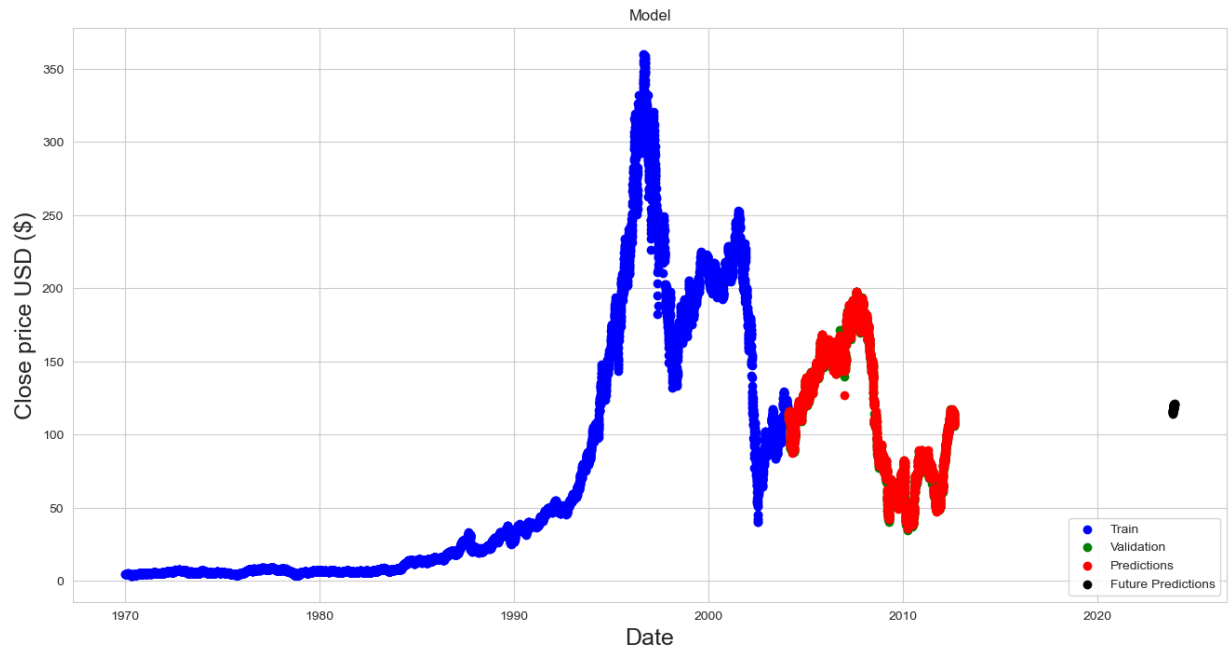
# Scatter plot for training data in blue
plt.scatter(train_RF.index, y_train, label='Train', color='blue')

# Scatter plot for actual values of validation data in green
plt.scatter(valid_RF.index, y_test, label='Validation', color='green')

# Scatter plot for predicted values of validation data in red
plt.scatter(valid_RF.index, predict, label='Predictions', color='red')

plt.legend(loc='lower right')
plt.show()

```



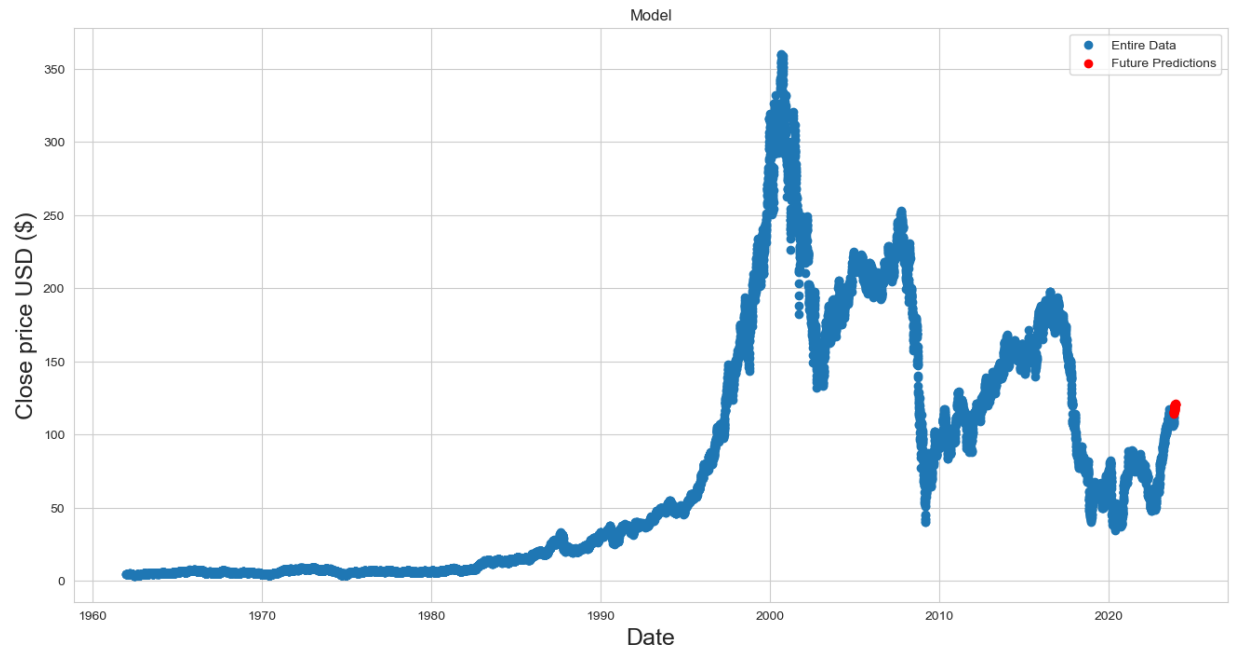
```
In [321... entire_data.index = pd.to_datetime(entire_data.index).tz_localize(None)
future_predictions_df.index = pd.to_datetime(future_predictions_df.index)

# Plotting both dataframes on the same plot
plt.figure(figsize=(16, 8))
plt.title('Model')
plt.xlabel('Date', fontsize=18)
plt.ylabel('Close price USD ($)', fontsize=18)

# Plotting entire_data in blue
plt.scatter(entire_data.index, entire_data['Close'], label='Entire Data')

# Plotting future_predictions_df in red
plt.scatter(future_predictions_df.index, future_predictions_df['Close'],

plt.legend()
plt.show()
```



In []: