To create a colorful dashboard for comparing mutual fund performance over at least five years, showing 10 charts with a switch option for dynamic visualization, we can use Python libraries such as Streamlit, Matplotlib, Seaborn, and Plotly. These tools allow creating visually appealing, interactive, and error-free dashboards.

# Here's how we can proceed:

### **Install the latest Version:**

In [2]: pip install numpy

Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: numpy in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (2.2.0)
Note: you may need to restart the kernel to use updated packages.

In [3]: pip install pandas matplotlib seaborn plotly streamlit

```
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: pandas in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (2.2.3)
Requirement already satisfied: matplotlib in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (3.9.2)
Requirement already satisfied: seaborn in c:\programdata\anaconda3\lib\site-packages (0.12.2)
Requirement already satisfied: plotly in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (5.24.1)
Requirement already satisfied: streamlit in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (1.40.2)
Requirement already satisfied: numpy>=1.23.2 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from panda
s) (2.2.0)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\programdata\anaconda3\lib\site-packages (from pandas) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in c:\programdata\anaconda3\lib\site-packages (from pandas) (2022.7)
Requirement already satisfied: tzdata>=2022.7 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from panda
s) (2024.2)
Requirement already satisfied: contourpy>=1.0.1 in c:\programdata\anaconda3\lib\site-packages (from matplotlib) (1.0.5)
Requirement already satisfied: cycler>=0.10 in c:\programdata\anaconda3\lib\site-packages (from matplotlib) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\programdata\anaconda3\lib\site-packages (from matplotlib) (4.25.0)
Requirement already satisfied: kiwisolver>=1.3.1 in c:\programdata\anaconda3\lib\site-packages (from matplotlib) (1.4.4)
Requirement already satisfied: packaging>=20.0 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from matp
lotlib) (24.0)
Requirement already satisfied: pillow>=8 in c:\programdata\anaconda3\lib\site-packages (from matplotlib) (9.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\programdata\anaconda3\lib\site-packages (from matplotlib) (3.0.9)
Requirement already satisfied: tenacity>=6.2.0 in c:\programdata\anaconda3\lib\site-packages (from plotly) (8.2.2)
Requirement already satisfied: altair<6,>=4.0 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from strea
mlit) (5.5.0)
Requirement already satisfied: blinker<2,>=1.0.0 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from st
reamlit) (1.9.0)
Requirement already satisfied: cachetools<6,>=4.0 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from s
treamlit) (5.5.0)
Requirement already satisfied: click<9,>=7.0 in c:\programdata\anaconda3\lib\site-packages (from streamlit) (8.0.4)
Requirement already satisfied: protobuf<6,>=3.20 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from st
reamlit) (5.28.3)
Requirement already satisfied: pyarrow>=7.0 in c:\programdata\anaconda3\lib\site-packages (from streamlit) (11.0.0)
Requirement already satisfied: requests<3,>=2.27 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from st
reamlit) (2.32.3)
Requirement already satisfied: rich<14,>=10.14.0 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from st
reamlit) (13.9.3)
Requirement already satisfied: toml<2,>=0.10.1 in c:\programdata\anaconda3\lib\site-packages (from streamlit) (0.10.2)
Requirement already satisfied: typing-extensions<5,>=4.3.0 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-package
s (from streamlit) (4.12.2)
Requirement already satisfied: watchdog<7,>=2.1.5 in c:\programdata\anaconda3\lib\site-packages (from streamlit) (2.1.6)
Requirement already satisfied: gitpython!=3.1.19,<4,>=3.0.7 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packag
es (from streamlit) (3.1.43)
Requirement already satisfied: pydeck<1,>=0.8.0b4 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from s
treamlit) (0.9.1)
Requirement already satisfied: tornado<7,>=6.0.3 in c:\programdata\anaconda3\lib\site-packages (from streamlit) (6.3.2)
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Requirement already satisfied: jinja2 in c:\programdata\anaconda3\lib\site-packages (from altair<6,>=4.0->streamlit) (3.1.2)
Requirement already satisfied: jsonschema>=3.0 in c:\programdata\anaconda3\lib\site-packages (from altair<6,>=4.0->streamlit) (4.1
7.3)
Requirement already satisfied: narwhals>=1.14.2 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from alt
air<6,>=4.0->streamlit) (1.16.0)
Requirement already satisfied: colorama in c:\programdata\anaconda3\lib\site-packages (from click<9,>=7.0->streamlit) (0.4.6)
Requirement already satisfied: gitdb<5,>=4.0.1 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from gitp
vthon!=3.1.19,<4,>=3.0.7->streamlit) (4.0.11)
Requirement already satisfied: six>=1.5 in c:\programdata\anaconda3\lib\site-packages (from python-dateutil>=2.8.2->pandas) (1.16.
Requirement already satisfied: charset-normalizer<4,>=2 in c:\programdata\anaconda3\lib\site-packages (from requests<3,>=2.27->stre
amlit) (2.0.4)
Requirement already satisfied: idna<4,>=2.5 in c:\programdata\anaconda3\lib\site-packages (from requests<3,>=2.27->streamlit) (3.4)
Requirement already satisfied: urllib3<3,>=1.21.1 in c:\programdata\anaconda3\lib\site-packages (from requests<3,>=2.27->streamlit)
(1.26.16)
Requirement already satisfied: certifi>=2017.4.17 in c:\programdata\anaconda3\lib\site-packages (from requests<3,>=2.27->streamlit)
(2023.7.22)
Requirement already satisfied: markdown-it-py>=2.2.0 in c:\programdata\anaconda3\lib\site-packages (from rich<14,>=10.14.0->streaml
it) (2.2.0)
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in c:\programdata\anaconda3\lib\site-packages (from rich<14,>=10.14.0->strea
mlit) (2.15.1)
Requirement already satisfied: smmap<6,>=3.0.1 in c:\users\purnangshu roy\appdata\roaming\python\python311\site-packages (from gitd
b<5,>=4.0.1->gitpython!=3.1.19,<4,>=3.0.7->streamlit) (5.0.1)
Requirement already satisfied: MarkupSafe>=2.0 in c:\programdata\anaconda3\lib\site-packages (from jinja2->altair<6,>=4.0->streamli
t) (2.1.1)
Requirement already satisfied: attrs>=17.4.0 in c:\programdata\anaconda3\lib\site-packages (from jsonschema>=3.0->altair<6,>=4.0->s
treamlit) (22.1.0)
Requirement already satisfied: pyrsistent!=0.17.0,!=0.17.1,!=0.17.2,>=0.14.0 in c:\programdata\anaconda3\lib\site-packages (from js
onschema>=3.0->altair<6,>=4.0->streamlit) (0.18.0)
Requirement already satisfied: mdurl~=0.1 in c:\programdata\anaconda3\lib\site-packages (from markdown-it-py>=2.2.0->rich<14,>=10.1
4.0->streamlit) (0.1.0)
```

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# Step 2: Design the Code

The following Python code creates an interactive dashboard for mutual fund performance comparison:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

```
import streamlit as st
# Function to simulate mutual fund data
def generate mutual fund data():
   years = pd.date range(start="2015-01-01", end="2023-01-01", freq='Y').year
   funds = ["Fund A", "Fund B", "Fund C", "Fund D", "Fund E"]
   data = {
        "Year": np.tile(years, len(funds)),
        "Fund": np.repeat(funds, len(years)),
        "Performance (%)": np.random.uniform(5, 20, len(years) * len(funds))
   return pd.DataFrame(data)
# Load Data
df = generate mutual fund data()
# Streamlit App
st.title("Interactive Mutual Fund Performance Dashboard")
# Sidebar for filters
fund filter = st.sidebar.multiselect("Select Funds to Compare", options=df["Fund"].unique(), default=df["Fund"].unique())
year range = st.sidebar.slider("Select Year Range", min value=int(df["Year"].min()), max value=int(df["Year"].max()), value=(2015,
# Filter data based on selections
filtered data = df[(df["Fund"].isin(fund filter)) & (df["Year"].between(year range[0], year range[1]))]
# Plot 1: Line Chart
st.subheader("Performance Over Years (Line Chart)")
fig1, ax1 = plt.subplots(figsize=(10, 6))
sns.lineplot(data=filtered data, x="Year", y="Performance (%)", hue="Fund", marker="o", ax=ax1)
ax1.set title("Yearly Performance Comparison")
ax1.set ylabel("Performance (%)")
st.pyplot(fig1)
# PLot 2: Bar Chart
st.subheader("Performance Over Years (Bar Chart)")
fig2, ax2 = plt.subplots(figsize=(10, 6))
sns.barplot(data=filtered data, x="Year", y="Performance (%)", hue="Fund", ax=ax2)
ax2.set title("Yearly Performance Comparison (Bar)")
ax2.set ylabel("Performance (%)")
st.pyplot(fig2)
# Plot 3: Box Plot
```

```
st.subheader("Performance Distribution (Box Plot)")
fig3, ax3 = plt.subplots(figsize=(10, 6))
sns.boxplot(data=filtered data, x="Fund", y="Performance (%)", ax=ax3)
ax3.set title("Performance Distribution by Fund")
ax3.set ylabel("Performance (%)")
st.pyplot(fig3)
# Heatmap
st.subheader("Heatmap of Performance")
performance pivot = filtered data.pivot table(index="Year", columns="Fund", values="Performance (%)")
fig4, ax4 = plt.subplots(figsize=(10, 6))
sns.heatmap(performance pivot, annot=True, fmt=".1f", cmap="coolwarm", ax=ax4)
ax4.set title("Heatmap of Performance")
st.pyplot(fig4)
# Statistical Summary
st.subheader("Statistical Summary")
st.dataframe(filtered data.groupby("Fund")["Performance (%)"].describe())
```

```
A module that was compiled using NumPy 1.x cannot be run in
NumPy 2.2.0 as it may crash. To support both 1.x and 2.x
versions of NumPy, modules must be compiled with NumPy 2.0.
Some module may need to rebuild instead e.g. with 'pybind11>=2.12'.
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We expect that some modules will need time to support NumPy 2.
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  File "<frozen runpy>", line 88, in run code
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    app.launch new instance()
  File "C:\ProgramData\anaconda3\Lib\site-packages\traitlets\config\application.py", line 992, in launch instance
    app.start()
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelapp.py", line 711, in start
    self.io loop.start()
  File "C:\ProgramData\anaconda3\Lib\site-packages\tornado\platform\asyncio.py", line 195, in start
    self.asyncio loop.run forever()
  File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 607, in run forever
    self. run once()
  File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 1922, in run once
    handle. run()
  File "C:\ProgramData\anaconda3\Lib\asyncio\events.py", line 80, in _run
    self. context.run(self. callback, *self. args)
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 510, in dispatch queue
    await self.process one()
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 499, in process one
    await dispatch(*args)
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 406, in dispatch shell
    await result
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 729, in execute request
    reply content = await reply content
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\ipkernel.py", line 411, in do execute
    res = shell.run cell(
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\zmqshell.py", line 531, in run_cell
    return super().run cell(*args, **kwargs)
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3006, in run cell
    result = self. run cell(
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3061, in _run_cell
    result = runner(coro)
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\async helpers.py", line 129, in pseudo sync runner
    coro.send(None)
```

```
File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3266, in run cell async
   has raised = await self.run ast nodes(code ast.body, cell name,
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPvthon\core\interactiveshell.py", line 3445, in run ast nodes
   if await self.run code(code, result, async =asy):
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3505, in run code
    exec(code obj, self.user global ns, self.user ns)
 File "C:\Users\PURNANGSHU ROY\AppData\Local\Temp\ipykernel 15512\4201826809.py", line 1, in <module>
    import pandas as pd
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\ init .py", line 39, in <module>
   from pandas.compat import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\compat\ init .py", line 27, in <module>
    from pandas.compat.pyarrow import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\compat\pyarrow.py", line 8, in <module>
    import pyarrow as pa
 File "C:\ProgramData\anaconda3\Lib\site-packages\pyarrow\ init .py", line 65, in <module>
   import pyarrow.lib as lib
AttributeError
                                         Traceback (most recent call last)
AttributeError: ARRAY API not found
```

```
A module that was compiled using NumPy 1.x cannot be run in
NumPy 2.2.0 as it may crash. To support both 1.x and 2.x
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    self.asyncio loop.run forever()
  File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 607, in run forever
    self. run once()
  File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 1922, in run once
    handle. run()
  File "C:\ProgramData\anaconda3\Lib\asyncio\events.py", line 80, in _run
    self. context.run(self. callback, *self. args)
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 510, in dispatch queue
    await self.process one()
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 499, in process one
    await dispatch(*args)
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 406, in dispatch shell
    await result
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 729, in execute request
    reply content = await reply content
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\ipkernel.py", line 411, in do execute
    res = shell.run cell(
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\zmqshell.py", line 531, in run_cell
    return super().run cell(*args, **kwargs)
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3006, in run cell
    result = self. run cell(
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3061, in _run_cell
    result = runner(coro)
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\async helpers.py", line 129, in pseudo sync runner
    coro.send(None)
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   has raised = await self.run ast nodes(code ast.body, cell name,
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 File "C:\Users\PURNANGSHU ROY\AppData\Local\Temp\ipykernel 15512\4201826809.py", line 1, in <module>
    import pandas as pd
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\ init .py", line 62, in <module>
   from pandas.core.api import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\api.py", line 9, in <module>
    from pandas.core.dtvpes.dtvpes import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\dtypes\dtypes.py", line 24, in <module>
    from pandas. libs import (
 File "C:\ProgramData\anaconda3\Lib\site-packages\pyarrow\ init .py", line 65, in <module>
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   from pandas.core.api import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\api.py", line 28, in <module>
    from pandas.core.arrays import Categorical
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python\311\site-packages\pandas\core\arrays\ init .py", line 1, in <module>
    from pandas.core.arrays.arrow import ArrowExtensionArray
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python\311\site-packages\pandas\core\arrays\arrow\ init .py", line 5, in <m
odule>
   from pandas.core.arrays.arrow.array import ArrowExtensionArray
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python\311\site-packages\pandas\core\arrays\arrow\array.py", line 50, in <mod
ule>
    from pandas.core import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\ops\ init .py", line 8, in <module>
    from pandas.core.ops.array ops import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\ops\array ops.py", line 56, in <module>
    from pandas.core.computation import expressions
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\computation\expressions.py", line 21, in
<module>
    from pandas.core.computation.check import NUMEXPR INSTALLED
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\computation\check.py", line 5, in <modul
e>
    ne = import optional dependency("numexpr", errors="warn")
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python\1\site-packages\pandas\compat\ optional.py", line 135, in import opt
ional dependency
    module = importlib.import module(name)
 File "C:\ProgramData\anaconda3\Lib\importlib\ init .py", line 126, in import module
    return bootstrap. gcd import(name[level:], package, level)
 File "C:\ProgramData\anaconda3\Lib\site-packages\numexpr\__init__.py", line 24, in <module>
   from numexpr.interpreter import MAX THREADS, use vml, BLOCK SIZE1
AttributeError
                                         Traceback (most recent call last)
AttributeError: ARRAY API not found
```

```
A module that was compiled using NumPy 1.x cannot be run in
NumPy 2.2.0 as it may crash. To support both 1.x and 2.x
versions of NumPy, modules must be compiled with NumPy 2.0.
Some module may need to rebuild instead e.g. with 'pybind11>=2.12'.
If you are a user of the module, the easiest solution will be to
downgrade to 'numpy<2' or try to upgrade the affected module.
We expect that some modules will need time to support NumPy 2.
Traceback (most recent call last): File "<frozen runpy>", line 198, in run module as main
  File "<frozen runpy>", line 88, in run code
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel launcher.py", line 17, in <module>
    app.launch new instance()
  File "C:\ProgramData\anaconda3\Lib\site-packages\traitlets\config\application.py", line 992, in launch instance
    app.start()
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelapp.py", line 711, in start
    self.io loop.start()
  File "C:\ProgramData\anaconda3\Lib\site-packages\tornado\platform\asyncio.py", line 195, in start
    self.asyncio loop.run forever()
  File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 607, in run forever
    self. run once()
  File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 1922, in run once
    handle. run()
  File "C:\ProgramData\anaconda3\Lib\asyncio\events.py", line 80, in _run
    self. context.run(self. callback, *self. args)
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 510, in dispatch queue
    await self.process one()
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 499, in process one
    await dispatch(*args)
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 406, in dispatch shell
    await result
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 729, in execute request
    reply content = await reply content
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\ipkernel.py", line 411, in do execute
    res = shell.run cell(
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\zmqshell.py", line 531, in run_cell
    return super().run cell(*args, **kwargs)
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3006, in run cell
    result = self. run cell(
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3061, in _run_cell
    result = runner(coro)
  File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\async helpers.py", line 129, in pseudo sync runner
    coro.send(None)
```

```
File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3266, in run cell async
   has raised = await self.run ast nodes(code ast.body, cell name,
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3445, in run ast nodes
   if await self.run code(code, result, async =asy):
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3505, in run code
   exec(code obj, self.user global ns, self.user ns)
 File "C:\Users\PURNANGSHU ROY\AppData\Local\Temp\ipykernel 15512\4201826809.py", line 1, in <module>
   import pandas as pd
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\ init .py", line 62, in <module>
   from pandas.core.api import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\api.py", line 28, in <module>
   from pandas.core.arrays import Categorical
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python\311\site-packages\pandas\core\arrays\ init .py", line 1, in <module>
   from pandas.core.arrays.arrow import ArrowExtensionArray
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python\311\site-packages\pandas\core\arrays\arrow\ init .py", line 5, in <m
odule>
   from pandas.core.arrays.arrow.array import ArrowExtensionArray
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\arrays\arrow\array.py", line 64, in <mod
ule>
   from pandas.core.arrays.masked import BaseMaskedArray
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\arrays\masked.py", line 60, in <module>
   from pandas.core import (
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\pandas\core\nanops.py", line 52, in <module>
   bn = import optional dependency("bottleneck", errors="warn")
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python\1\site-packages\pandas\compat\ optional.py", line 135, in import opt
ional dependency
   module = importlib.import module(name)
 File "C:\ProgramData\anaconda3\Lib\importlib\__init__.py", line 126, in import_module
   return bootstrap. gcd import(name[level:], package, level)
 File "C:\ProgramData\anaconda3\Lib\site-packages\bottleneck\ init .py", line 7, in <module>
   from .move import (move argmax, move argmin, move max, move mean, move median,
_____
AttributeError
                                        Traceback (most recent call last)
AttributeError: ARRAY API not found
```

localhost:8888/nbconvert/html/PycharmProjects/Interactive Mutual Fund Performance Dashboard.ipynb?download=false

```
C:\Users\PURNANGSHU ROY\AppData\Local\Temp\ipykernel 15512\4201826809.py:9: FutureWarning: 'Y' is deprecated and will be removed in
a future version, please use 'YE' instead.
  years = pd.date range(start="2015-01-01", end="2023-01-01", freq='Y').year
2024-12-20 10:59:23.660 WARNING streamlit.runtime.scriptrunner utils.script run context: Thread 'MainThread': missing ScriptRunCont
ext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.727
  Warning: to view this Streamlit app on a browser, run it with the following
  command:
    streamlit run C:\ProgramData\anaconda3\Lib\site-packages\ipykernel launcher.py [ARGUMENTS]
2024-12-20 10:59:24.728 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.742 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.743 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.748 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.752 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.754 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.756 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.757 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.759 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.762 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.763 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.772 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:24.772 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
C:\ProgramData\anaconda3\Lib\site-packages\seaborn\ oldcore.py:1119: FutureWarning: use inf as na option is deprecated and will be
removed in a future version. Convert inf values to NaN before operating instead.
  with pd.option context('mode.use inf as na', True):
C:\ProgramData\anaconda3\Lib\site-packages\seaborn\ oldcore.py:1119: FutureWarning: use inf as na option is deprecated and will be
removed in a future version. Convert inf values to NaN before operating instead.
  with pd.option context('mode.use inf as na', True):
C:\ProgramData\anaconda3\Lib\site-packages\seaborn\ oldcore.py:1075: FutureWarning: When grouping with a length-1 list-like, you wi
ll need to pass a length-1 tuple to get group in a future version of pandas. Pass `(name,)` instead of `name` to silence this warni
ng.
  data subset = grouped data.get group(pd key)
C:\ProgramData\anaconda3\Lib\site-packages\seaborn\ oldcore.py:1075: FutureWarning: When grouping with a length-1 list-like, you wi
ll need to pass a length-1 tuple to get group in a future version of pandas. Pass `(name,)` instead of `name` to silence this warni
ng.
  data subset = grouped data.get group(pd key)
C:\ProgramData\anaconda3\Lib\site-packages\seaborn\ oldcore.py:1075: FutureWarning: When grouping with a length-1 list-like, you wi
ll need to pass a length-1 tuple to get group in a future version of pandas. Pass `(name,)` instead of `name` to silence this warni
ng.
  data subset = grouped data.get group(pd key)
C:\ProgramData\anaconda3\Lib\site-packages\seaborn\ oldcore.py:1075: FutureWarning: When grouping with a length-1 list-like, you wi
ll need to pass a length-1 tuple to get group in a future version of pandas. Pass `(name,)` instead of `name` to silence this warni
```

```
data subset = grouped data.get group(pd key)
C:\ProgramData\anaconda3\Lib\site-packages\seaborn\ oldcore.py:1075: FutureWarning: When grouping with a length-1 list-like, you wi
ll need to pass a length-1 tuple to get group in a future version of pandas. Pass `(name,)` instead of `name` to silence this warni
ng.
  data subset = grouped data.get group(pd key)
2024-12-20 10:59:24.924 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:25.527 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:25.528 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:25.529 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:25.530 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:25.666 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.238 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.239 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.239 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.241 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.315 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.736 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.736 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.738 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.739 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:26.875 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:27.358 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:27.359 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:27.360 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
2024-12-20 10:59:27.362 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.
A module that was compiled using NumPy 1.x cannot be run in
NumPy 2.2.0 as it may crash. To support both 1.x and 2.x
versions of NumPy, modules must be compiled with NumPy 2.0.
Some module may need to rebuild instead e.g. with 'pybind11>=2.12'.
If you are a user of the module, the easiest solution will be to
downgrade to 'numpy<2' or try to upgrade the affected module.
We expect that some modules will need time to support NumPy 2.
Traceback (most recent call last): File "<frozen runpy>", line 198, in run module as main
  File "<frozen runpy>", line 88, in run code
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel launcher.py", line 17, in <module>
    app.launch new instance()
  File "C:\ProgramData\anaconda3\Lib\site-packages\traitlets\config\application.py", line 992, in launch instance
    app.start()
  File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelapp.py", line 711, in start
    self.io loop.start()
```

```
File "C:\ProgramData\anaconda3\Lib\site-packages\tornado\platform\asyncio.py", line 195, in start
   self.asyncio loop.run forever()
 File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 607, in run forever
   self. run once()
 File "C:\ProgramData\anaconda3\Lib\asyncio\base events.py", line 1922, in run once
   handle. run()
 File "C:\ProgramData\anaconda3\Lib\asyncio\events.py", line 80, in run
   self. context.run(self. callback, *self. args)
 File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 510, in dispatch queue
   await self.process one()
 File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 499, in process one
   await dispatch(*args)
 File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 406, in dispatch shell
   await result
 File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\kernelbase.py", line 729, in execute request
   reply content = await reply content
 File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\ipkernel.py", line 411, in do execute
   res = shell.run cell(
 File "C:\ProgramData\anaconda3\Lib\site-packages\ipykernel\zmqshell.py", line 531, in run_cell
   return super().run cell(*args, **kwargs)
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3006, in run cell
   result = self. run cell(
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3061, in run cell
   result = runner(coro)
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\async helpers.py", line 129, in pseudo sync runner
   coro.send(None)
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3266, in run cell async
   has raised = await self.run ast nodes(code ast.body, cell name,
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3445, in run ast nodes
   if await self.run code(code, result, async =asy):
 File "C:\ProgramData\anaconda3\Lib\site-packages\IPython\core\interactiveshell.py", line 3505, in run code
   exec(code_obj, self.user_global ns, self.user ns)
 File "C:\Users\PURNANGSHU ROY\AppData\Local\Temp\ipykernel 15512\4201826809.py", line 66, in <module>
   st.dataframe(filtered data.groupby("Fund")["Performance (%)"].describe())
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\streamlit\runtime\metrics util.py", line 409, in wra
pped func
   result = non optional func(*args, **kwargs)
 File "C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages\streamlit\elements\arrow.py", line 494, in dataframe
   import pyarrow as pa
 File "C:\ProgramData\anaconda3\Lib\site-packages\pyarrow\ init .py", line 65, in <module>
   import pyarrow.lib as lib
```

\_\_\_\_\_\_

AttributeError Traceback (most recent call last)

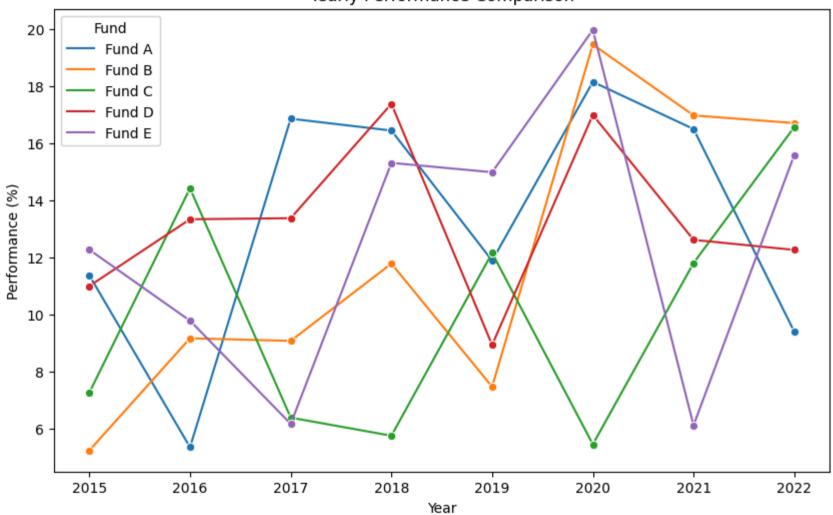
AttributeError: \_ARRAY\_API not found

```
ImportError
                                          Traceback (most recent call last)
Cell In[4], line 66
    64 # Statistical Summary
     65 st.subheader("Statistical Summary")
---> 66 st.dataframe(filtered data.groupby("Fund")["Performance (%)"].describe())
File ~\AppData\Roaming\Python\Python\11\site-packages\streamlit\runtime\metrics util.py:409, in gather metrics.<locals>.wrapped fun
c(*args, **kwargs)
    407
                LOGGER.debug("Failed to collect command telemetry", exc info=ex)
    408 try:
--> 409
            result = non optional func(*args, **kwargs)
   410 except RerunException as ex:
    411
            # Duplicated from below, because static analysis tools get confused
    412
           # by deferring the rethrow.
    413
           if tracking activated and command telemetry:
File ~\AppData\Roaming\Python\Python311\site-packages\streamlit\elements\arrow.py:494, in ArrowMixin.dataframe(self, data, width, h
eight, use container width, hide index, column order, column config, key, on select, selection mode)
    256 @gather metrics("dataframe")
    257 def dataframe(
    258
            self,
   (\ldots)
    269
            selection mode: SelectionMode | Iterable[SelectionMode] = "multi-row",
    270 ) -> DeltaGenerator | DataframeState:
            """Display a dataframe as an interactive table.
    271
    272
    273
            This command works with a wide variety of collection-like and
   (…)
    492
            0.000
    493
--> 494
           import pyarrow as pa
           if on select not in ["ignore", "rerun"] and not callable(on select):
    496
    497
                raise StreamlitAPIException(
    498
                    f"You have passed {on select} to `on select`. But only 'ignore', 'rerun', or a callable is supported."
    499
                )
File C:\ProgramData\anaconda3\Lib\site-packages\pyarrow\ init .py:65
     63 gc enabled = gc.isenabled()
    64 gc.disable()
---> 65 import pyarrow.lib as _lib
    66 if gc enabled:
     67 gc.enable()
```

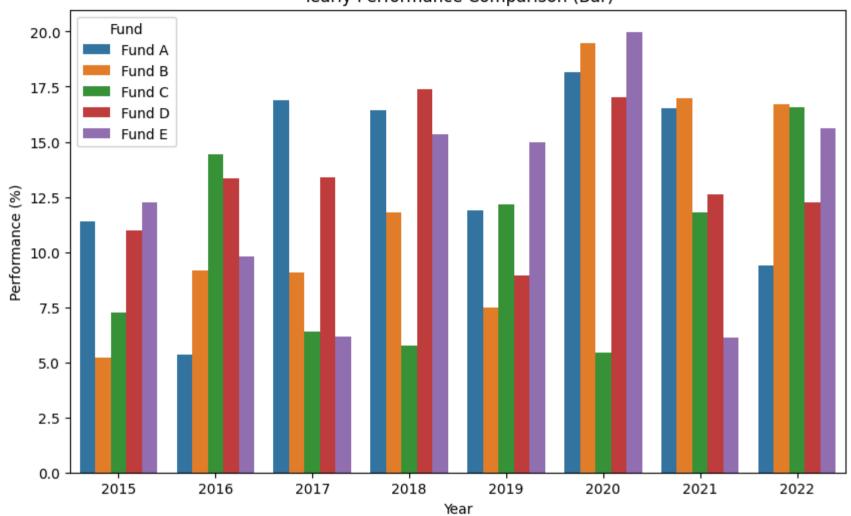
File C:\ProgramData\anaconda3\Lib\site-packages\pyarrow\lib.pyx:37, in init pyarrow.lib()

ImportError: numpy.core.multiarray failed to import

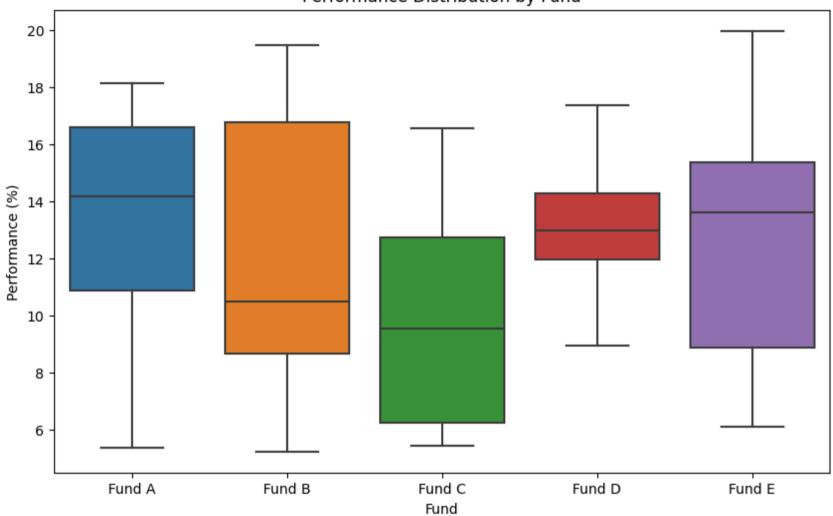
## Yearly Performance Comparison

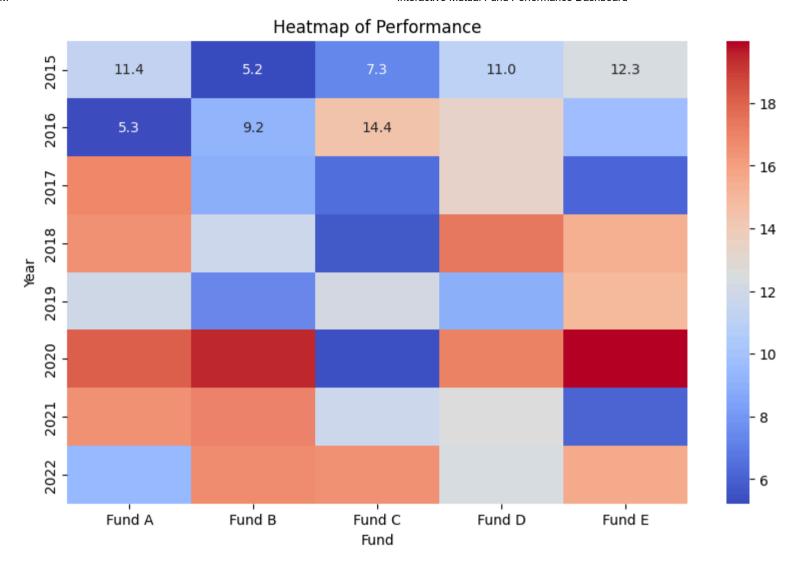


### Yearly Performance Comparison (Bar)



## Performance Distribution by Fund





Features: Data Simulation: Randomized performance data for 5 mutual funds over a 5+ year period. Interactive Filters: Fund selection (multiselect dropdown). Year range selection (slider). Visualizations: Line Chart (Trend comparison). Bar Chart (Yearly comparisons). Box Plot (Performance distribution). Heatmap (Year-wise performance). Statistical Summary: Descriptive statistics for selected funds.

In [5]: pip show numpy

Name: numpy Version: 2.2.0

Summary: Fundamental package for array computing in Python

Home-page:

Author: Travis E. Oliphant et al.

Author-email:

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----

The NumPy repository and source distributions bundle several libraries that are compatibly licensed. We list these here.

Name: lapack-lite

Files: numpy/linalg/lapack lite/\*

```
License: BSD-3-Clause
  For details, see numpy/linalg/lapack lite/LICENSE.txt
Name: dragon4
Files: numpy/ core/src/multiarray/dragon4.c
License: MIT
  For license text, see numpy/ core/src/multiarray/dragon4.c
Name: libdivide
Files: numpy/_core/include/numpy/libdivide/*
License: Zlib
  For license text, see numpy/ core/include/numpy/libdivide/LICENSE.txt
Note that the following files are vendored in the repository and sdist but not
installed in built numpy packages:
Name: Meson
Files: vendored-meson/meson/*
License: Apache 2.0
  For license text, see vendored-meson/meson/COPYING
Name: spin
Files: .spin/cmds.py
License: BSD-3
  For license text, see .spin/LICENSE
Name: tempita
Files: numpy/ build utils/tempita/*
License: MIT
  For details, see numpy/ build utils/tempita/LICENCE.txt
This binary distribution of NumPy also bundles the following software:
Name: OpenBLAS
Files: numpy.libs\libscipy openblas*.dll
Description: bundled as a dynamically linked library
Availability: https://github.com/OpenMathLib/OpenBLAS/
License: BSD-3-Clause
  Copyright (c) 2011-2014, The OpenBLAS Project
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```

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Name: LAPACK

Files: numpy.libs\libscipv openblas\*.dll

Description: bundled in OpenBLAS

Availability: https://github.com/OpenMathLib/OpenBLAS/

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Name: GCC runtime library

Files: numpy.libs\libscipy openblas\*.dll

Description: statically linked to files compiled with gcc

Availability: https://gcc.gnu.org/git/?p=gcc.git;a=tree;f=libgfortran

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Version 3.1, 31 March 2009

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The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

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Location: C:\Users\PURNANGSHU ROY\AppData\Roaming\Python\Python311\site-packages Requires:

Required-by: astropy, bokeh, Bottleneck, catboost, contourpy, daal4py, datashader, datashape, gensim, h5py, holoviews, hvplot, imag ecodecs, imageio, imbalanced-learn, keras, lightgbm, matplotlib, mkl-fft, mkl-random, ml-dtypes, numba, numexpr, opencv-contrib-pyt hon, opencv-python, pandas, patsy, pyarrow, pydeck, pyerfa, PyWavelets, scikit-image, scikit-learn, scipy, seaborn, statsmodels, st reamlit, tables, tensorboard, tensorflow\_intel, tifffile, torchvision, transformers, xarray, xgboost, yfinance
Note: you may need to restart the kernel to use updated packages.

In [6]: pip list

Package	Version
absl-py	2.1.0
aiobotocore	2.4.2
aiofiles	22.1.0
aiohttp	3.8.3
aioitertools	0.7.1
aiosignal	1.2.0
aiosqlite	0.18.0
alabaster	0.7.12
altair	5.5.0
anaconda-catalogs	0.2.0
anaconda-client	1.12.0
anaconda-navigator	2.4.2
anaconda-project	0.11.1
anyio	3.5.0
appdirs	1.4.4
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
astroid	2.14.2
astropy	5.1
asttokens	2.0.5
astunparse	1.6.3
async-timeout	4.0.2
atomicwrites	1.4.0
attrs	22.1.0
Automat	20.2.0
autopep8	1.6.0
Babel	2.11.0
backcall	0.2.0
backports.functools-lru-cache	
backports.tempfile	1.0.4
backports.weakref	1.0.post1
·	3.2.0
bcrypt	4.12.2
beautifulsoup4	0.4.4
binaryornot black	0.0
bleach blinker	4.1.0 1.9.0
bokeh	3.2.1 23.0.0
boltons	
boto3	1.24.28
botocore	1.27.59

Bottleneck	1.3.5
brotlipy	0.7.0
build	1.2.1
CacheControl	0.14.0
cachetools	5.5.0
catboost	1.2.2
certifi	2023.7.22
cffi	1.15.1
chardet	4.0.0
charset-normalizer	2.0.4
cleo	2.1.0
click	8.0.4
cloudpickle	2.2.1
clyent	1.2.2
colorama	0.4.6
colorcet	3.0.1
COMM	0.2.2
comtypes	1.4.8
conda	23.7.2
conda-build	3.26.0
conda-content-trust	0+unknown
conda_index	0.2.3
conda-libmamba-solver	23.5.0
conda-pack	0.6.0
conda-package-handling	2.2.0
conda_package_streaming	0.9.0
conda-repo-cli	1.0.41
conda-token	0.4.0
conda-verify	3.4.2
constantly	15.1.0
contourpy	1.0.5
cookiecutter	1.7.3
crashtest	0.4.1
cryptography	41.0.2
cssselect	1.1.0
cycler	0.11.0
cytoolz	0.12.0
daal4py	2023.1.1
dash	2.18.1
dash-core-components	2.0.0
dash-html-components	2.0.0
dash-table	5.0.0
dask	2023.6.0
datashader	0.15.1

datashape	0.5.4
debugpy	1.6.7
decorator	5.1.1
defusedxml	0.7.1
diff-match-patch	20200713
dill	0.3.6
distlib	0.3.8
distributed	2023.6.0
docstring-to-markdown	0.11
docutils	0.18.1
dulwich	0.21.7
entrypoints	0.4
et-xmlfile	1.1.0
executing	0.8.3
fastjsonschema	2.19.1
filelock	3.13.4
fix-yahoo-finance	0.1.37
flake8	6.0.0
Flask	2.2.2
flatbuffers	24.3.25
fonttools	4.25.0
forex-python	1.8
fpdf	1.7.2
frozendict	2.4.4
frozenlist	1.3.3
fsspec	2024.10.0
future	0.18.3
gast	0.6.0
gensim	4.3.0
gitdb	4.0.11
GitPython	3.1.43
glob2	0.7
google-api-core	2.21.0
google-api-python-client	2.149.0
google-auth	2.35.0
google-auth-httplib2	0.2.0
google-auth-oauthlib	1.2.1
google-pasta	0.2.0
googleapis-common-protos	1.65.0
graphviz	0.20.1
greenlet	2.0.1
grpcio	1.67.1
h5py	3.12.1
HeapDict	1.0.1

holoviews	1.17.0
html5lib	1.1
httplib2	0.22.0
huggingface-hub	0.26.2
hvplot	0.8.4
hyperlink	21.0.0
idna	3.4
imagecodecs	2021.8.26
imageio	2.26.0
imagesize	1.4.1
imbalanced-learn	0.10.1
importlib-metadata	6.0.0
incremental	21.3.0
inflection	0.5.1
iniconfig	1.1.1
installer	0.7.0
intake	0.6.8
intervaltree	3.1.0
ipykernel	6.19.2
ipython	8.12.0
ipython-genutils	0.2.0
ipywidgets	8.1.5
isort	5.9.3
itemadapter	0.3.0
itemloaders	1.0.4
itsdangerous	2.0.1
jaraco.classes	3.2.1
jedi	0.18.1
jellyfish	0.9.0
Jinja2	3.1.2
jinja2-time	0.2.0
jmespath	0.10.0
joblib	1.2.0
json5	0.9.6
jsonpatch	1.32
jsonpointer	2.1
jsonschema	4.17.3
jupyter	1.0.0
jupyter_client	7.4.9
jupyter-console	6.6.3
jupyter_core	5.3.0
jupyter-events	0.6.3
jupyter-server	1.23.4
jupyter_server_fileid	0.9.0

jupyter_server_ydoc	0.8.0
jupyter-ydoc	0.2.4
jupyterlab	3.6.3
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.0
jupyterlab_widgets	3.0.13
keras	3.6.0
keyring	24.3.1
kiwisolver	1.4.4
lazy_loader	0.2
lazy-object-proxy	1.6.0
libarchive-c	2.9
libclang	18.1.1
libmambapy	1.4.1
lightgbm	4.3.0
linkify-it-py	2.0.0
llvmlite	0.40.0
1mdb	1.4.1
locket	1.0.0
lxml	4.9.2
1z4	4.3.2
Markdown	3.4.1
markdown-it-py	2.2.0
MarkupSafe	2.1.1
matplotlib	3.9.2
matplotlib-inline	0.1.6
mccabe	0.7.0
mdit-py-plugins	0.3.0
mdurl	0.1.0
menuinst	1.4.19
mistune	0.8.4
mkl-fft	1.3.6
mkl-random	1.2.2
mkl-service	2.4.0
ml-dtypes	0.4.1
more-itertools	8.12.0
mplfinance	0.12.10b0
mpmath	1.3.0
msgpack	1.0.3
multidict	6.0.2
multipledispatch	0.6.0
multitasking	0.0.11
munkres	1.1.4
mypy-extensions	0.4.3

mysql-connector	2.2.9
namex	0.0.8
narwhals	1.16.0
navigator-updater	0.4.0
nbclassic	0.5.5
nbclient	0.5.13
nbconvert	6.5.4
nbformat	5.7.0
nest-asyncio	1.5.6
networkx	3.1
nltk	3.8.1
notebook	6.5.4
notebook_shim	0.2.2
numba	0.57.0
numexpr	2.8.4
numpy	2.2.0
numpydoc	1.5.0
oauth2client	4.1.3
oauthlib	3.2.2
opencv-contrib-python	4.9.0.86
opencv-python	4.9.0.86
openpyxl	3.0.10
opt_einsum	3.4.0
optree	0.13.0
packaging	24.0
panda	0.3.1
pandas	2.2.3
pandocfilters	1.5.0
panel	1.2.1
param	1.13.0
paramiko	2.8.1
parsel	1.6.0
parso	0.8.3
partd	1.2.0
pathlib	1.0.1
pathspec	0.10.3
patsy	0.5.3
peewee	3.17.6
pep8	1.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.4.0
pip	23.2.1
pkginfo	1.9.6

platformdirs	4.2.0
plotly	5.24.1
pluggy	1.0.0
ply	3.11
poetry	1.8.2
poetry-core	1.9.0
poetry-plugin-export	1.7.1
pooch	1.4.0
poyo	0.5.0
prometheus-client	0.14.1
prompt-toolkit	3.0.36
Protego	0.1.16
proto-plus	1.25.0
protobuf	5.28.3
psutil	5.9.0
ptyprocess	0.7.0
pure-eval	0.2.2
py-cpuinfo	8.0.0
pyarrow	11.0.0
pyasn1	0.4.8
pyasn1-modules	0.2.8
pybind11	2.13.6
pycodestyle	2.10.0
pycosat	0.6.4
pycparser	2.21
pyct	0.5.0
pycurl	7.45.2
pydeck	0.9.1
PyDispatcher	2.0.5
pydocstyle	6.3.0
pyerfa	2.0.0
pyflakes	3.0.1
Pygments	2.15.1
РуЈИТ	2.4.0
pylint	2.16.2
pylint-venv	2.3.0
pyls-spyder	0.4.0
PyNaCl	1.5.0
pyodbc	4.0.34
py0penSSL	23.2.0
pyparsing	3.0.9
pyperclip	1.9.0
pypiwin32	223
pyproject_hooks	1.0.0
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PyQt5	5.15.7
PyQt5-sip	12.11.0
PyQtWebEngine	5.15.4
pyrsistent	0.18.0
PySocks	1.7.1
pytesseract	0.3.13
pytest	7.4.0
python-dateutil	2.8.2
python-docx	1.1.2
python-json-logger	2.0.7
python-lsp-black	1.2.1
python-lsp-jsonrpc	1.0.0
python-lsp-server	1.7.2
python-pptx	1.0.2
python-slugify	5.0.2
python-snappy	0.6.1
pytoolconfig	1.2.5
pyttsx3	2.98
pytz	2022.7
pyviz-comms	2.3.0
PyWavelets	1.4.1
pywin32	305.1
pywin32-ctypes	0.2.0
pywinpty	2.0.10
PyYAML	6.0
pyzmq	23.2.0
QDarkStyle	3.0.2
qstylizer	0.2.2
QtAwesome	1.2.2
qtconsole	5.4.2
QtPy	2.2.0
queuelib	1.5.0
rapidfuzz	3.8.1
regex	2022.7.9
requests	2.32.3
requests-file	1.5.1
requests-oauthlib	2.0.0
requests-toolbelt	1.0.0
retrying	1.3.4
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rich	13.9.3
rope	1.7.0
rsa	4.9

Rtree	1.0.1
ruamel.yaml	0.17.21
ruamel-yaml-conda	0.17.21
s3fs	2023.3.0
s3transfer	0.6.0
sacremoses	0.0.43
	0.4.5
safetensors	0.4.5
scikit-image scikit-learn	1.5.2
scikit-learn-intelex	20230426.121932
	1.14.1
scipy	2.8.0
Scrapy	0.12.2
seaborn Send2Trash	1.8.0
sentencepiece	0.2.0
service-identity	18.1.0
setuptools	68.0.0
shellingham	1.5.4
simplejson	3.19.3
sip	6.6.2
six	1.16.0
smart-open	5.2.1
smmap	5.0.1
sniffio	1.2.0
snowballstemmer	2.2.0
sortedcontainers	2.4.0
soupsieve	2.4
Sphinx	5.0.2
sphinxcontrib-applehelp	1.0.2
sphinxcontrib-devhelp	1.0.2
sphinxcontrib-htmlhelp	2.0.0
sphinxcontrib-jsmath	1.0.1
sphinxcontrib-qthelp	1.0.3
<pre>sphinxcontrib-serializinghtml</pre>	
spyder	5.4.3
spyder-kernels	2.4.3
SQLAlchemy	1.4.39
stack-data	0.2.0
statsmodels	0.14.0
streamlit	1.40.2
sympy	1.13.1
tables	3.8.0
tabulate	0.8.10
TBB	0.2

tblib	1.7.0
tenacity	8.2.2
tensorboard	2.18.0
tensorboard-data-serve	er 0.7.2
tensorflow	2.18.0
tensorflow intel	2.18.0
tensorflow-io-gcs-file	
termcolor	2.5.0
terminado	0.17.1
text-unidecode	1.3
textblob	0.18.0.post0
textdistance	4.2.1
threadpoolctl	3.5.0
three-merge	0.1.1
tifffile	2021.7.2
tinycss2	1.2.1
tldextract	3.2.0
tokenizers	0.20.1
toml	0.10.2
tomlkit	0.12.4
toolz	0.12.0
torch	2.5.1
torchvision	0.20.1
tornado	6.3.2
tqdm	4.65.0
traitlets	5.7.1
transformers	4.46.0
trove-classifiers	2024.4.10
Twisted	22.10.0
twisted-iocpsupport	1.0.2
typing_extensions	4.12.2
tzdata	2024.2
uc-micro-py	1.0.1
ujson	5.4.0
Unidecode	1.2.0
uritemplate	4.1.1
urllib3	1.26.16
virtualenv	20.25.3
w3lib	1.21.0
watchdog	2.1.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	0.58.0
Werkzeug	2.2.3
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whatthepatch	1.0.2
wheel	0.38.4
widgetsnbextension	4.0.13
win-inet-pton	1.1.0
wrapt	1.14.1
xarray	2023.6.0
xgboost	2.0.3
XlsxWriter	3.2.0
xlwings	0.29.1
xyzservices	2022.9.0
у-ру	0.5.9
yapf	0.31.0
yarl	1.8.1
yfinance	0.2.48
ypy-websocket	0.8.2
zict	2.2.0
zipp	3.11.0
zope.interface	5.4.0
zstandard	0.19.0
Note: you may need to restart	the kerne

Note: you may need to restart the kernel to use updated packages.

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