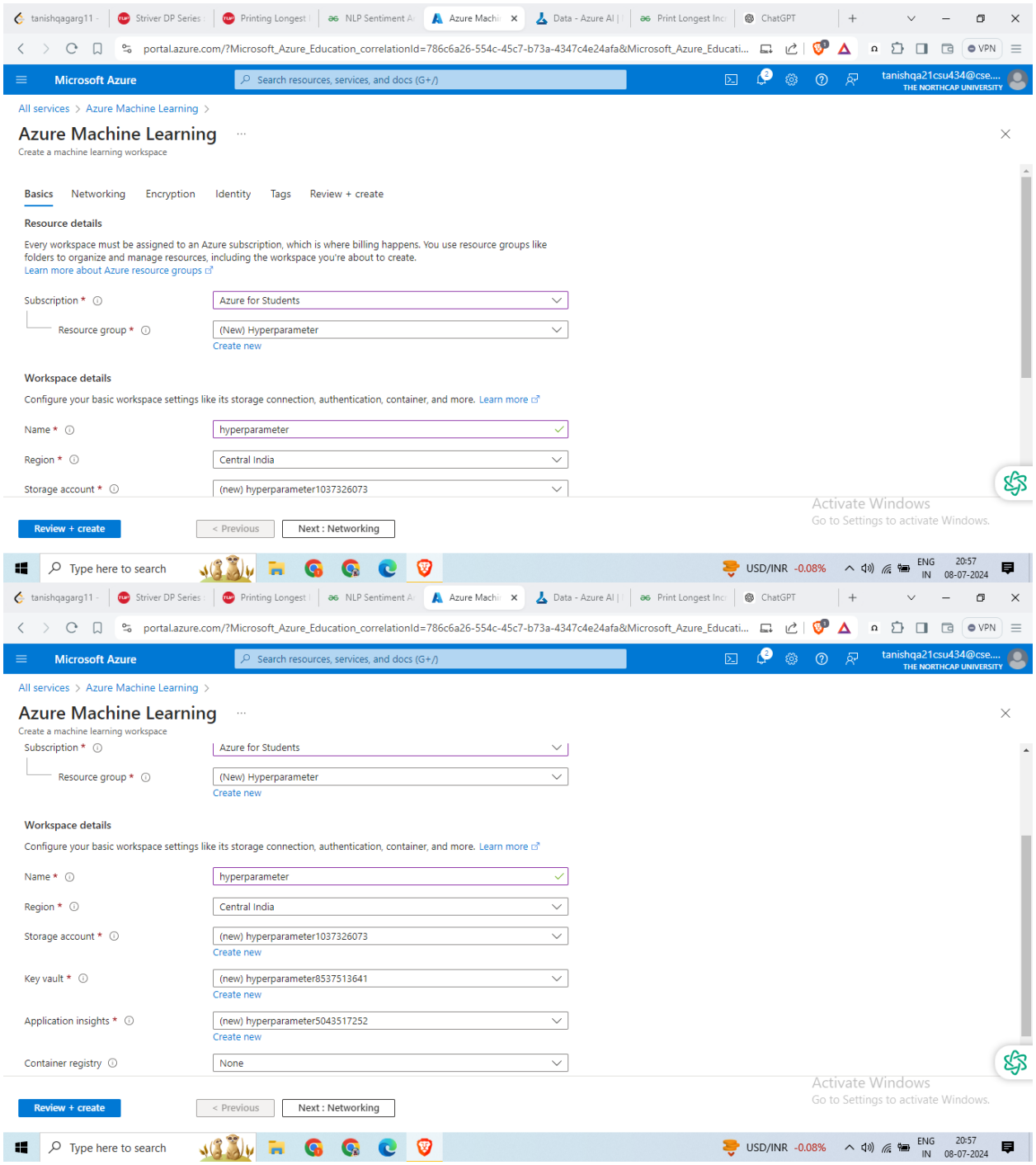
WORKSPACE


Microsoft Azure
Search resources, services, and docs (G+/)
All services > Azure Machine Learning >
Azure Machine Learning
Create a machine learning workspace
Basics Networking Encryption Identity Tags Review + create
Resource details
Every workspace must be assigned to an Azure subscription, which is where billing happens. You use resource groups like folders to organize and manage resources, including the workspace you're about to create.
Learn more about Azure resource groups
Subscription * Azure for Students
Resource group * (New) Hyperparameter
Create new
Workspace details
Configure your basic workspace settings like its storage connection, authentication, container, and more. Learn more
Name * hyperparameter
Region * Central India
Storage account * (new) hyperparameter1037326073
Review + create
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Region * Central India
Storage account * (new) hyperparameter1037326073
Create new
Key vault * (new) hyperparameter8537513641
Create new
Application insights * (new) hyperparameter5043517252
Create new
Container registry None
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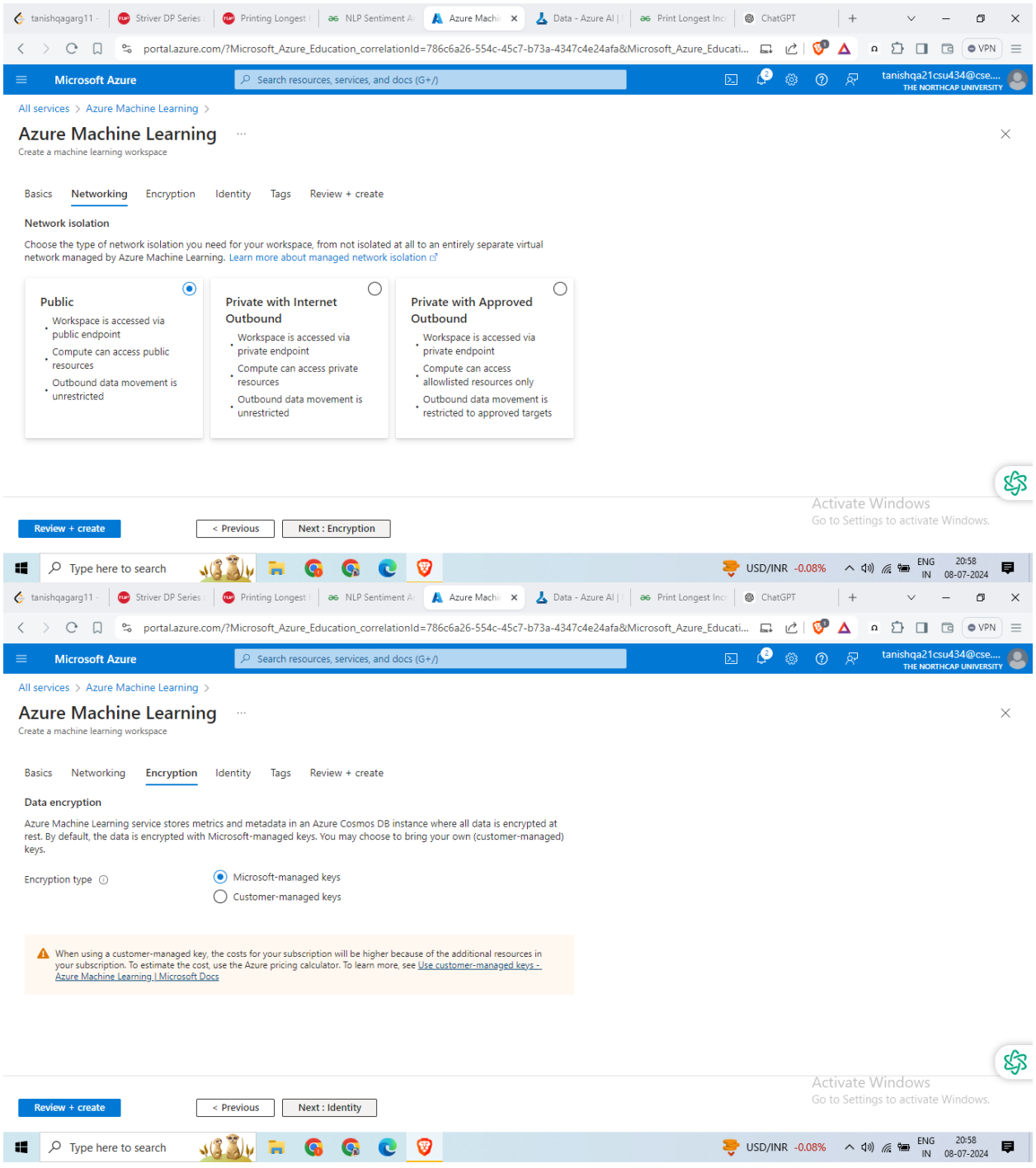
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Create a machine learning workspace
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Network isolation
Choose the type of network isolation you need for your workspace, from not isolated at all to an entirely separate virtual network managed by Azure Machine Learning. Learn more about managed network isolation
Public
Workspace is accessed via public endpoint
Compute can access public resources
Outbound data movement is unrestricted
Private with Internet Outbound
Workspace is accessed via private endpoint
Compute can access private resources
Outbound data movement is unrestricted
Private with Approved Outbound
Workspace is accessed via private endpoint
Compute can access allowlisted resources only
Outbound data movement is restricted to approved targets
Review + create
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Next : Encryption
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Data encryption
Azure Machine Learning service stores metrics and metadata in an Azure Cosmos DB instance where all data is encrypted at rest. By default, the data is encrypted with Microsoft-managed keys. You may choose to bring your own (customer-managed) keys.
Encryption type
Microsoft-managed keys
Customer-managed keys
When using a customer-managed key, the costs for your subscription will be higher because of the additional resources in your subscription. To estimate the cost, use the Azure pricing calculator. To learn more, see Use customer-managed keys - Azure Machine Learning | Microsoft Docs
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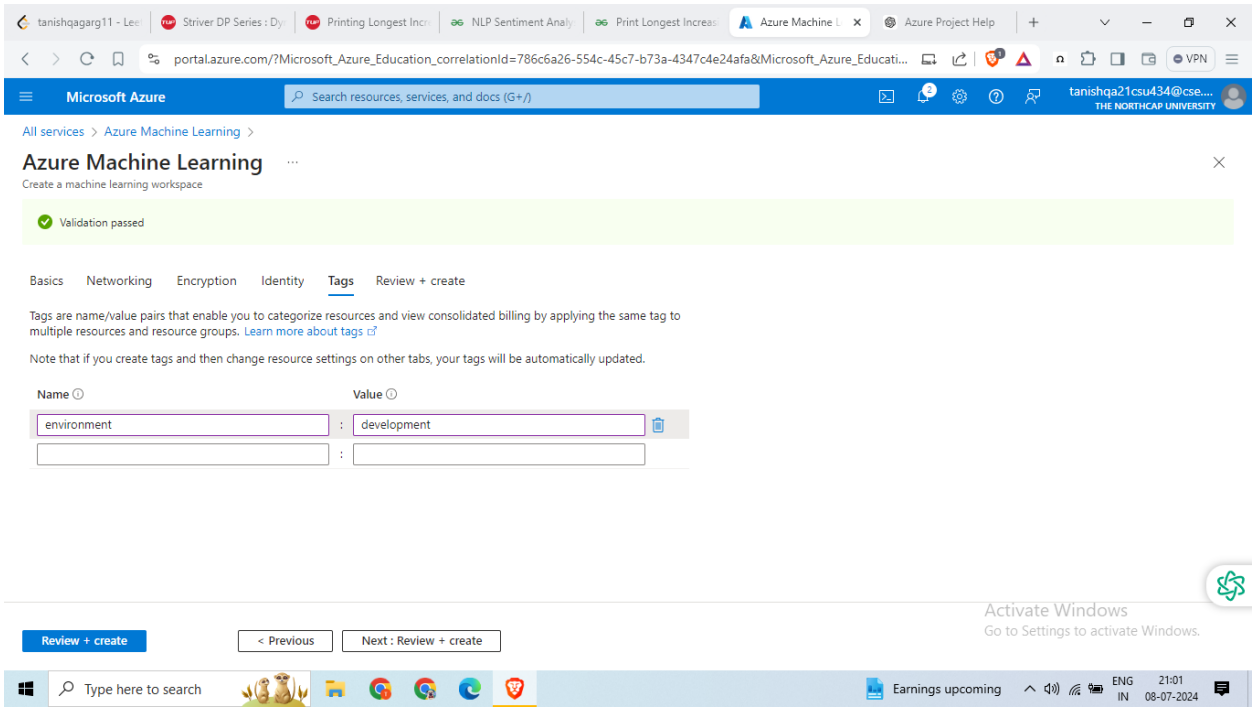
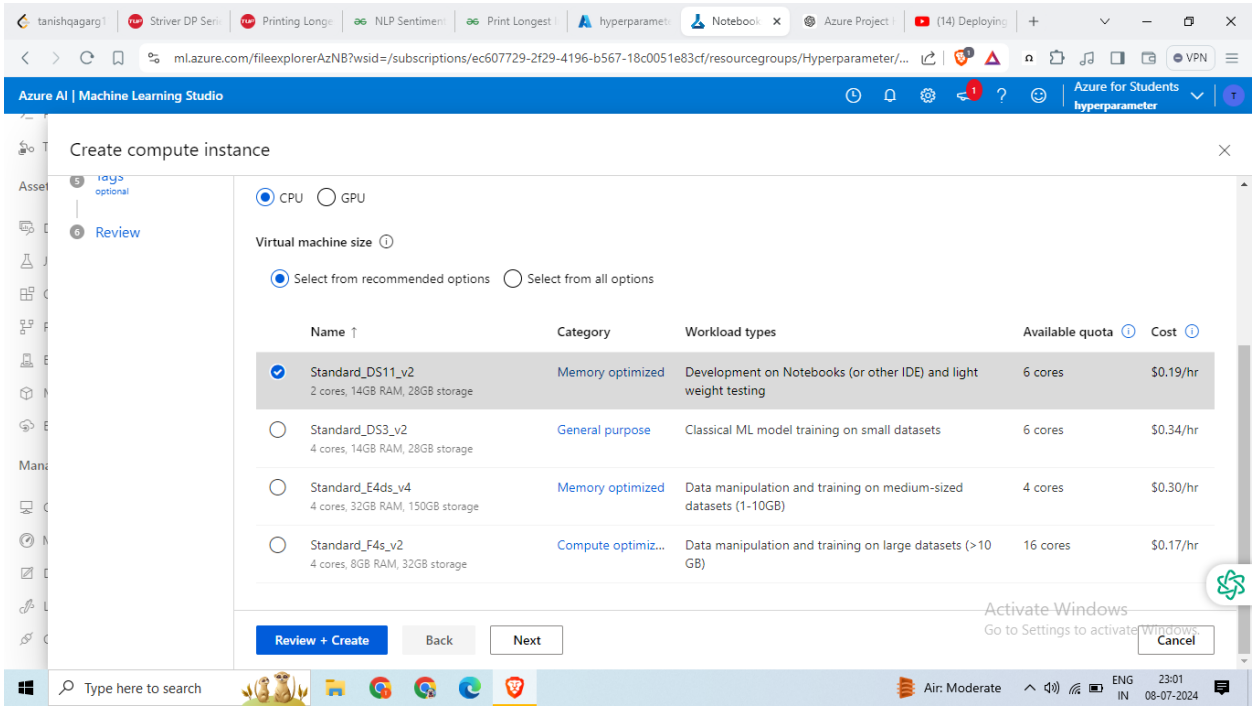
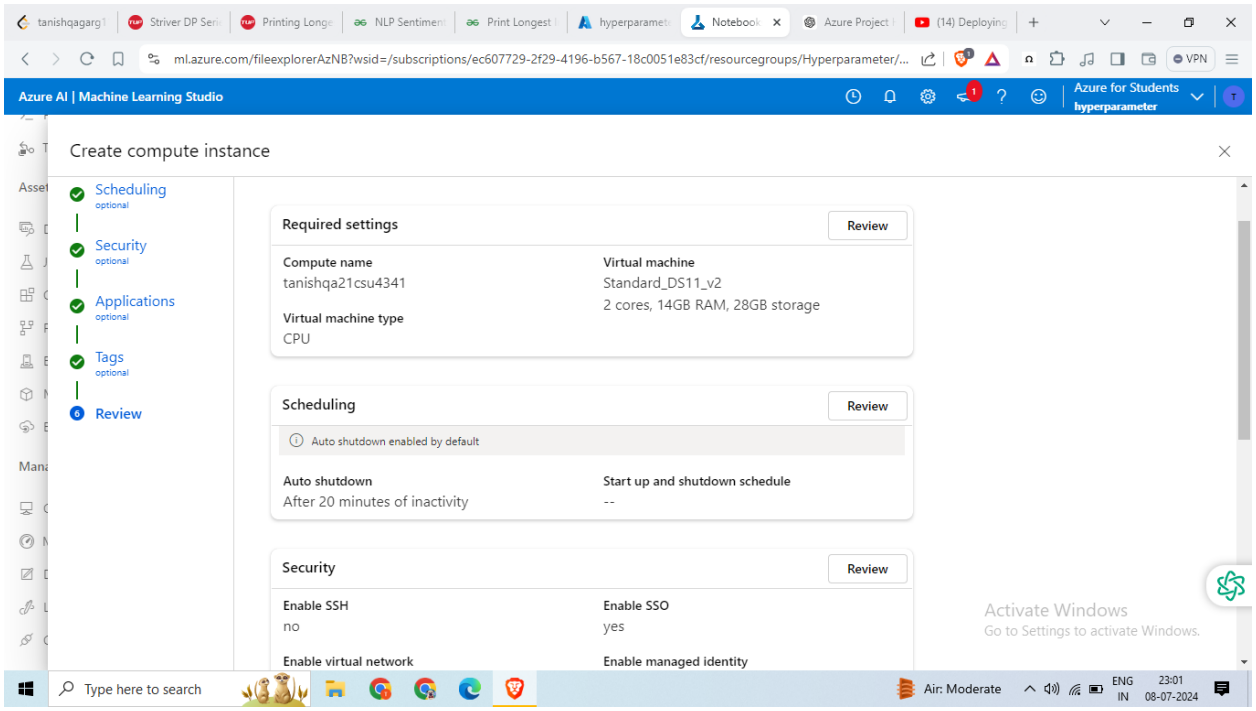
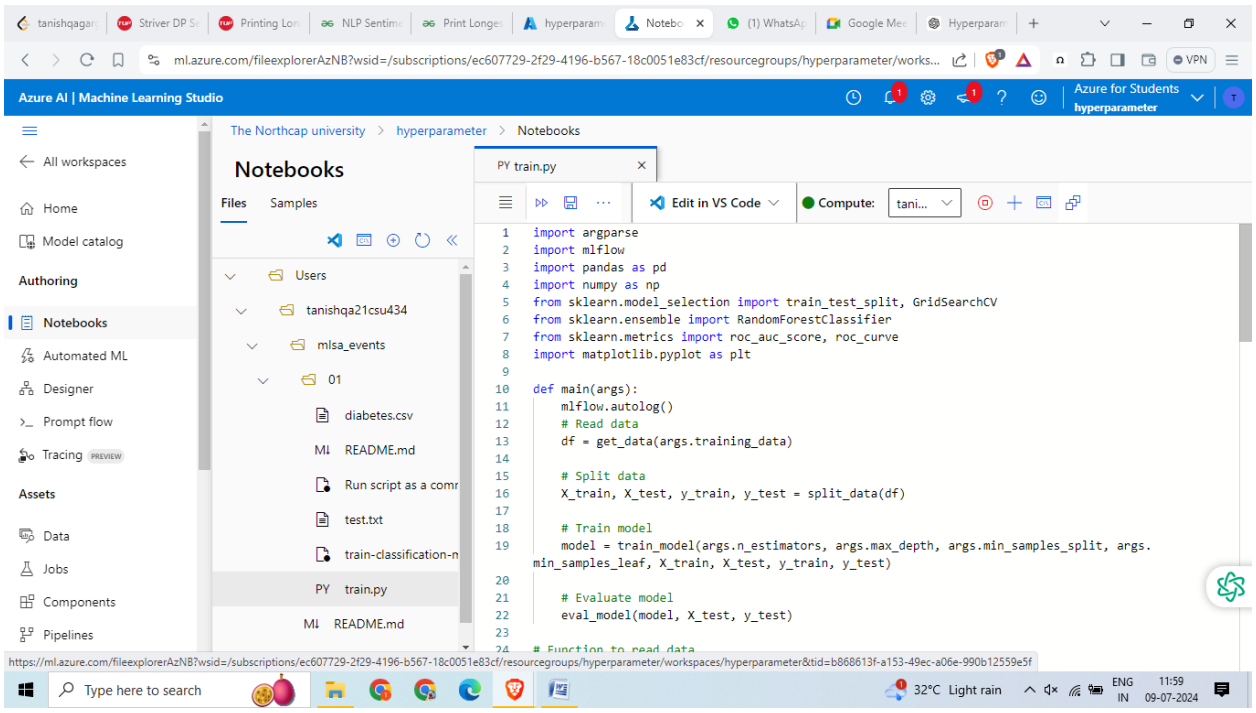


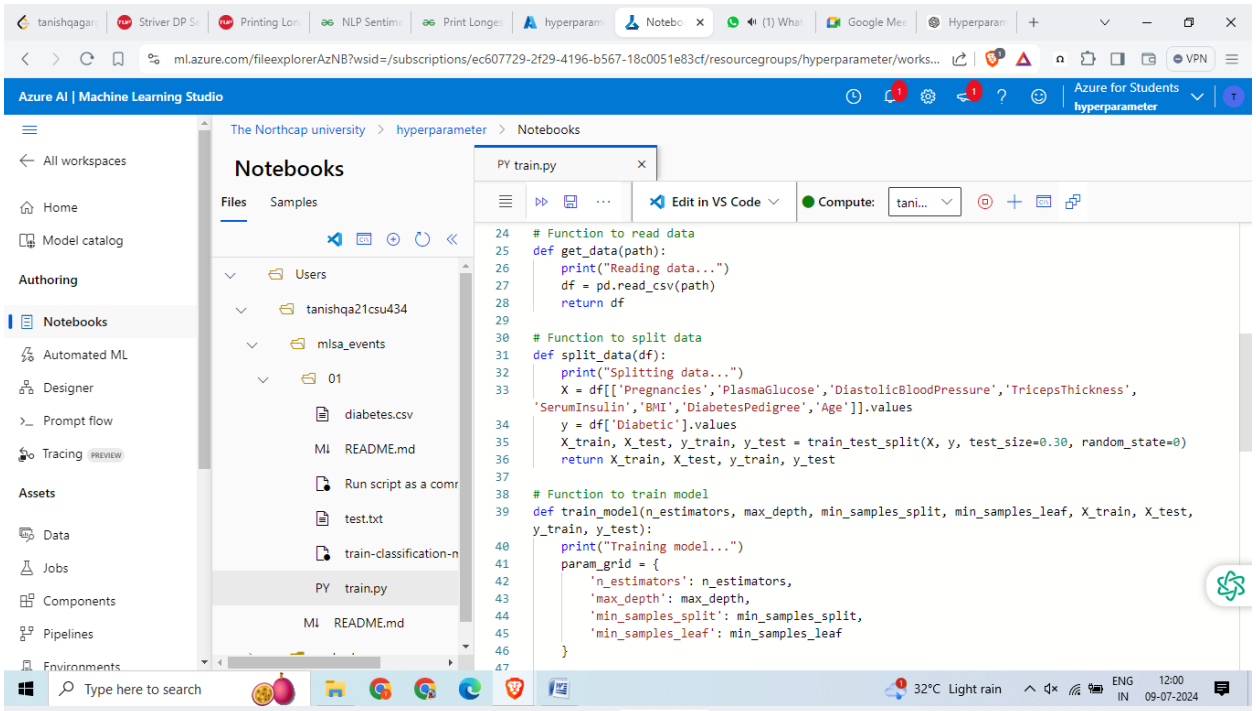
COMPUTE INSTANCE





Code screenschot

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# Function to read data
def get_data(path):
print("Reading data...")
df = pd.read_csv(path)
return df
# Function to split data
def split_data(df):
print("Splitting data...")
X = df[['Pregnancies','PlasmaGlucose','DiastolicBloodPressure','TricepsThickness','SerumInsulin','BMI','DiabetesPedigree','Age']].values
y = df['Diabetic'].values
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.30, random_state=0)
return X_train, X_test, y_train, y_test
# Function to train model
def train_model(n_estimators, max_depth, min_samples_split, min_samples_leaf, X_train, X_test, y_train, y_test):
print("Training model...")
param_grid = {
'n_estimators': n_estimators,
'max_depth': max_depth,
'min_samples_split': min_samples_split,
'min_samples_leaf': min_samples_leaf
}
Type here to search
32°C Light rain
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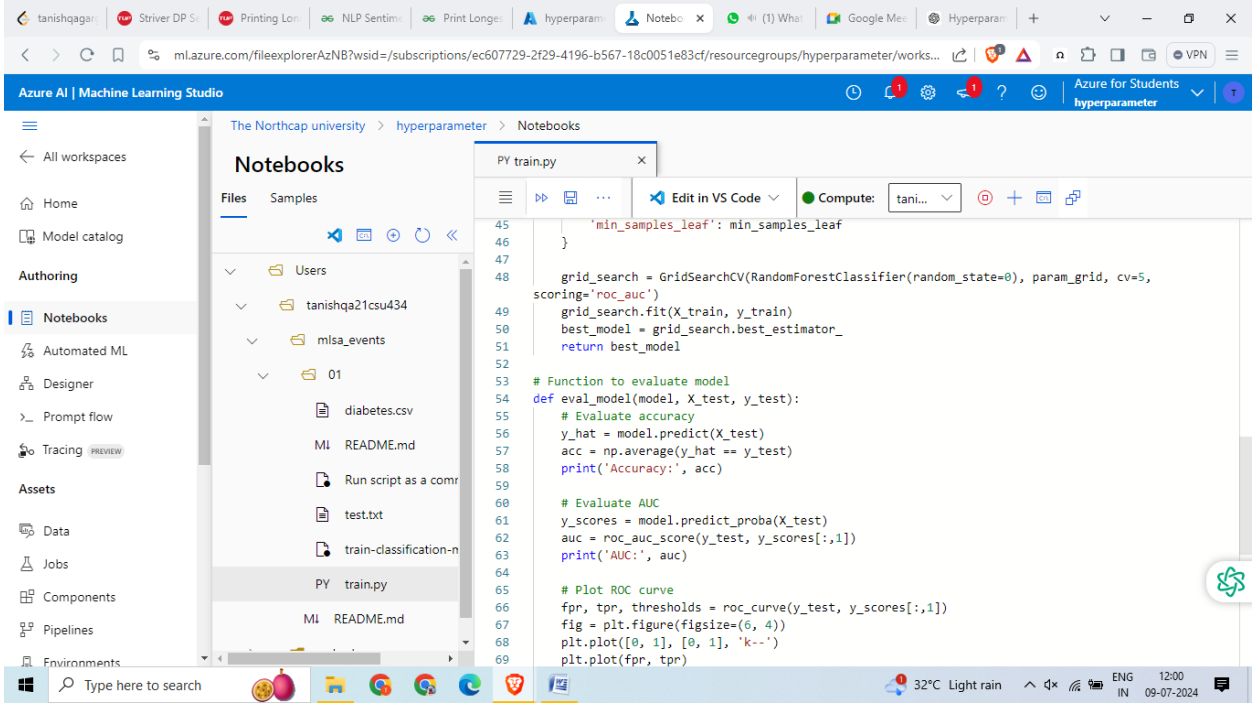
12:00 09-07-2024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'min_samples_leaf': min_samples_leaf
}
grid_search = GridSearchCV(RandomForestClassifier(random_state=0), param_grid, cv=5, scoring='roc_auc')
grid_search.fit(X_train, y_train)
best_model = grid_search.best_estimator_
return best_model
# Function to evaluate model
def eval_model(model, X_test, y_test):
# Evaluate accuracy
y_hat = model.predict(X_test)
acc = np.average(y_hat == y_test)
print('Accuracy:', acc)
# Evaluate AUC
y_scores = model.predict_proba(X_test)
auc = roc_auc_score(y_test, y_scores[:,1])
print('AUC:', auc)
# Plot ROC curve
fpr, tpr, thresholds = roc_curve(y_test, y_scores[:,1])
fig = plt.figure(figsize=(6, 4))
plt.plot([0, 1], [0, 1], 'k--')
plt.plot(fpr, tpr)
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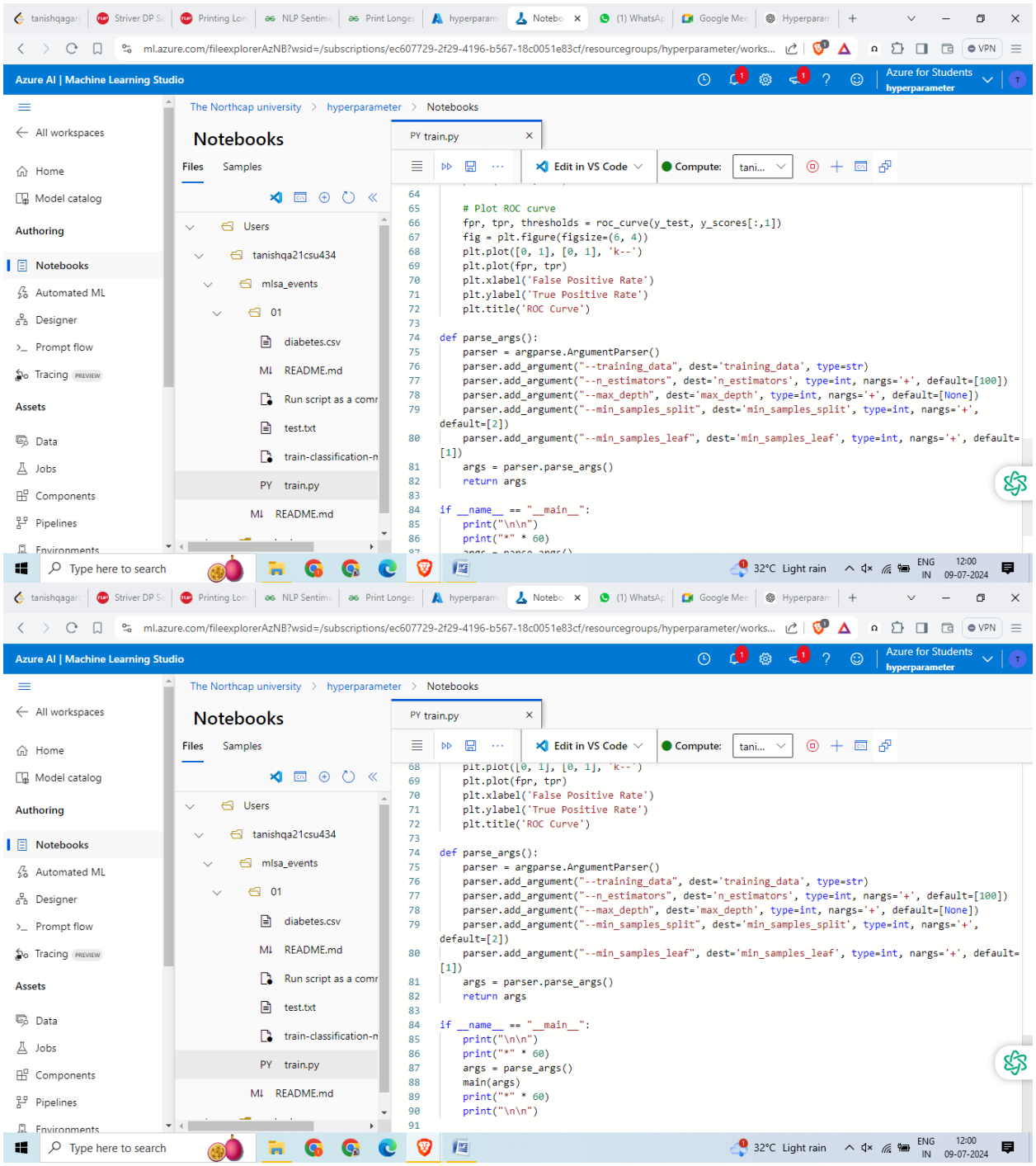
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plt.plot(fpr, tpr)
plt.xlabel('False Positive Rate')
plt.ylabel('True Positive Rate')
plt.title('ROC Curve')
def parse_args():
parser = argparse.ArgumentParser()
parser.add_argument("--training_data", dest='training_data', type=str)
parser.add_argument("--n_estimators", dest='n_estimators', type=int, nargs='+', default=[100])
parser.add_argument("--max_depth", dest='max_depth', type=int, nargs='+', default=[None])
parser.add_argument("--min_samples_split", dest='min_samples_split', type=int, nargs='+', default=[2])
parser.add_argument("--min_samples_leaf", dest='min_samples_leaf', type=int, nargs='+', default=[1])
args = parser.parse_args()
return args
if __name__ == "__main__":
print("\n\n")
print("*" * 60)
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parser.add_argument("--max_depth", dest='max_depth', type=int, nargs='+', default=[None])
parser.add_argument("--min_samples_split", dest='min_samples_split', type=int, nargs='+', default=[2])
parser.add_argument("--min_samples_leaf", dest='min_samples_leaf', type=int, nargs='+', default=[1])
args = parser.parse_args()
return args
if __name__ == "__main__":
print("\n\n")
print("*" * 60)
args = parse_args()
main(args)
print("*" * 60)
print("\n\n")
Type here to search
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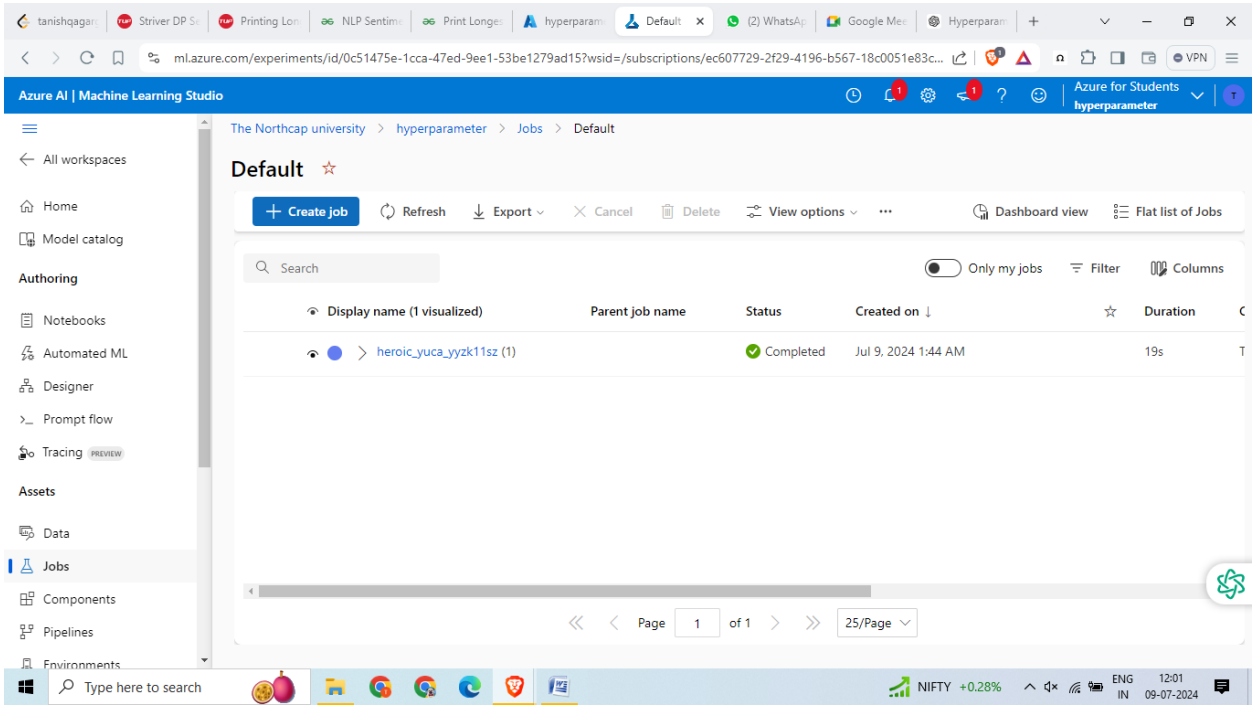
Job ss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Default
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heroic_yuca_yyzk11sz (1)
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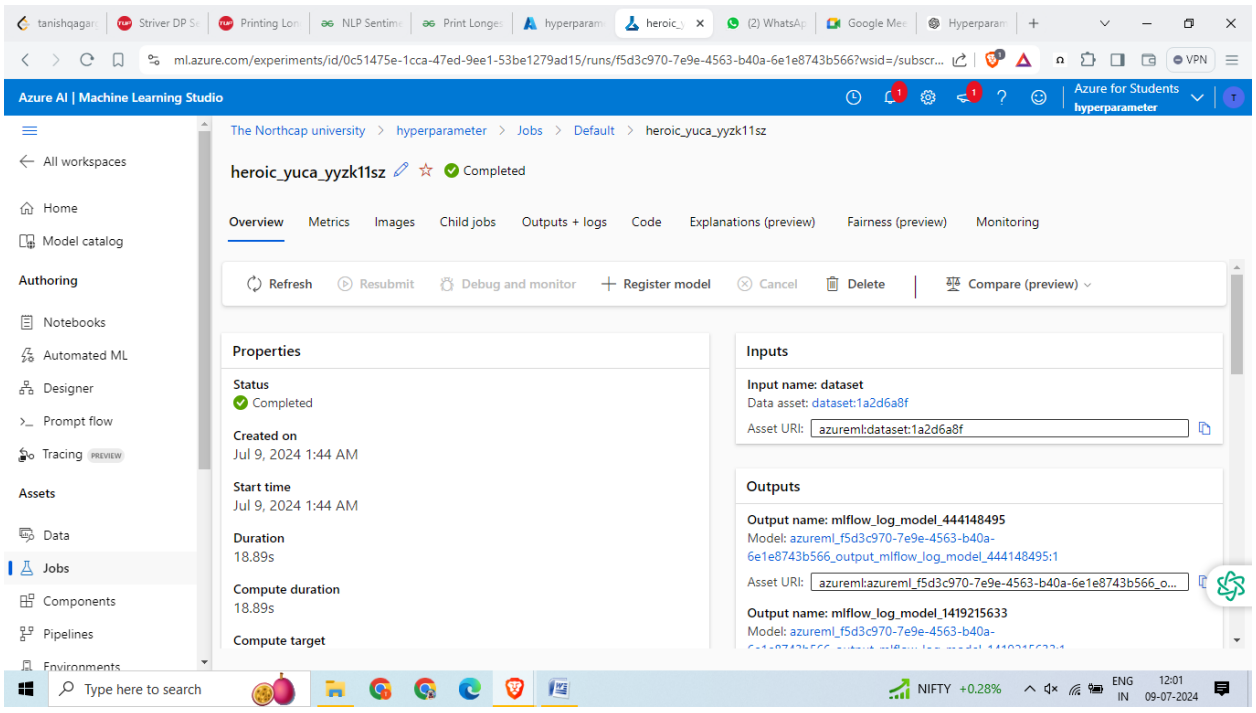
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heroic_yuca_yyzk11sz
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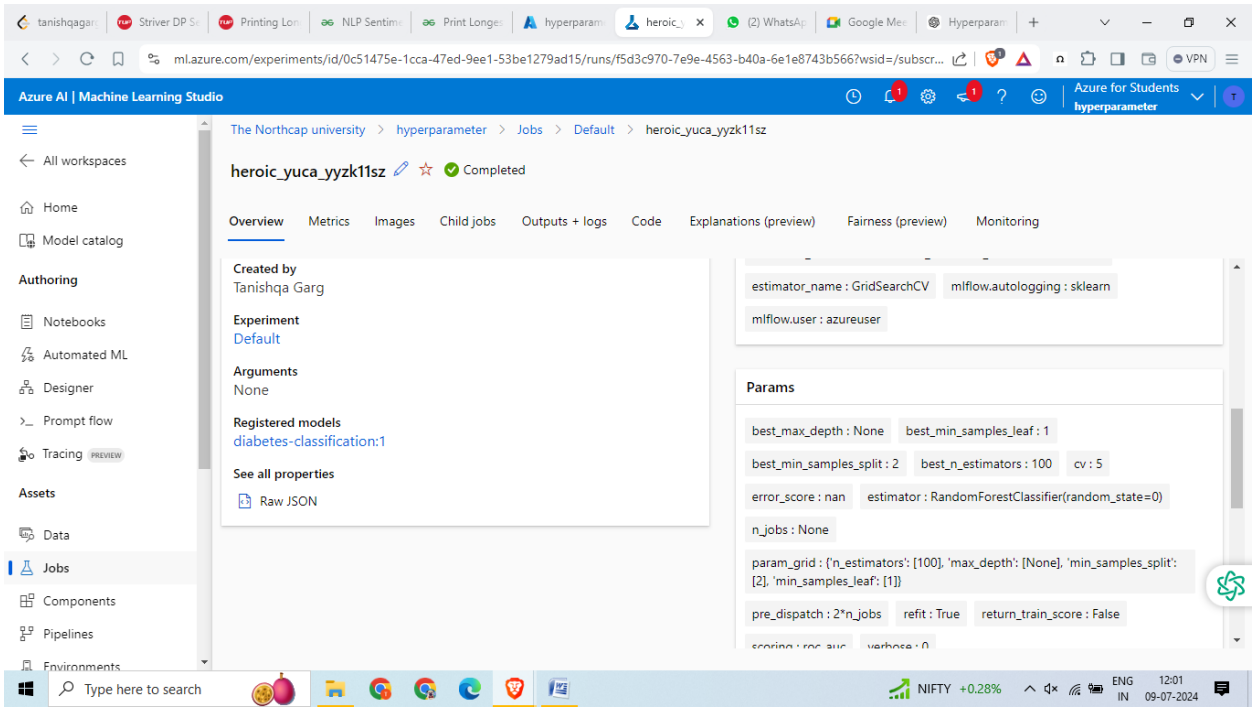
Created on
Jul 9, 2024 1:44 AM
Start time
Jul 9, 2024 1:44 AM
Duration
18.89s
Compute duration
18.89s
Compute target
Inputs
Input name: dataset
Data asset: dataset:1a2d6a8f
Asset URI: azureml:dataset:1a2d6a8f
Outputs
Output name: mlflow_log_model_444148495
Model: azureml_f5d3c970-7e9e-4563-b40a-6e1e8743b566_output_mlflow_log_model_444148495:1
Asset URI: azureml:azureml_f5d3c970-7e9e-4563-b40a-6e1e8743b566_o...
Output name: mlflow_log_model_1419215633
Model: azureml_f5d3c970-7e9e-4563-b40a-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Registered models
diabetes-classification:1
See all properties
Raw JSON
estimator_name : GridSearchCV
mlflow.autologging : sklearn
mlflow.user : azureuser
Params
best_max_depth : None
best_min_samples_leaf : 1
best_min_samples_split : 2
best_n_estimators : 100
cv : 5
error_score : nan
estimator : RandomForestClassifier(random_state=0)
n_jobs : None
param_grid : {'n_estimators': [100], 'max_depth': [None], 'min_samples_split': [2], 'min_samples_leaf': [1]}
pre_dispatch : 2*n_jobs
refit : True
return_train_score : False
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ENG
IN
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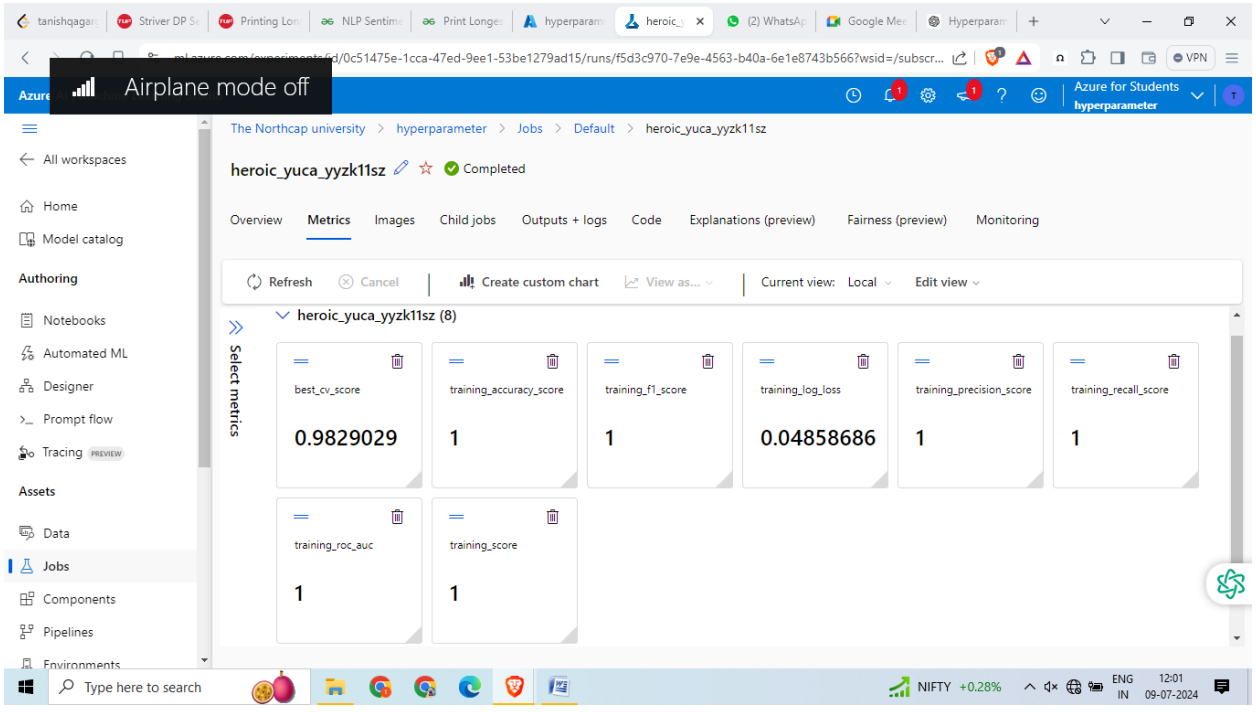
09-07-2024

Job metrics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heroic_yuca_yyzk11sz
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View as...
Current view: Local
Edit view
Select metrics
heroic_yuca_yyzk11sz (8)
best_cv_score
0.9829029
training_accuracy_score
1
training_f1_score
1
training_log_loss
0.04858686
training_precision_score
1
training_recall_score
1
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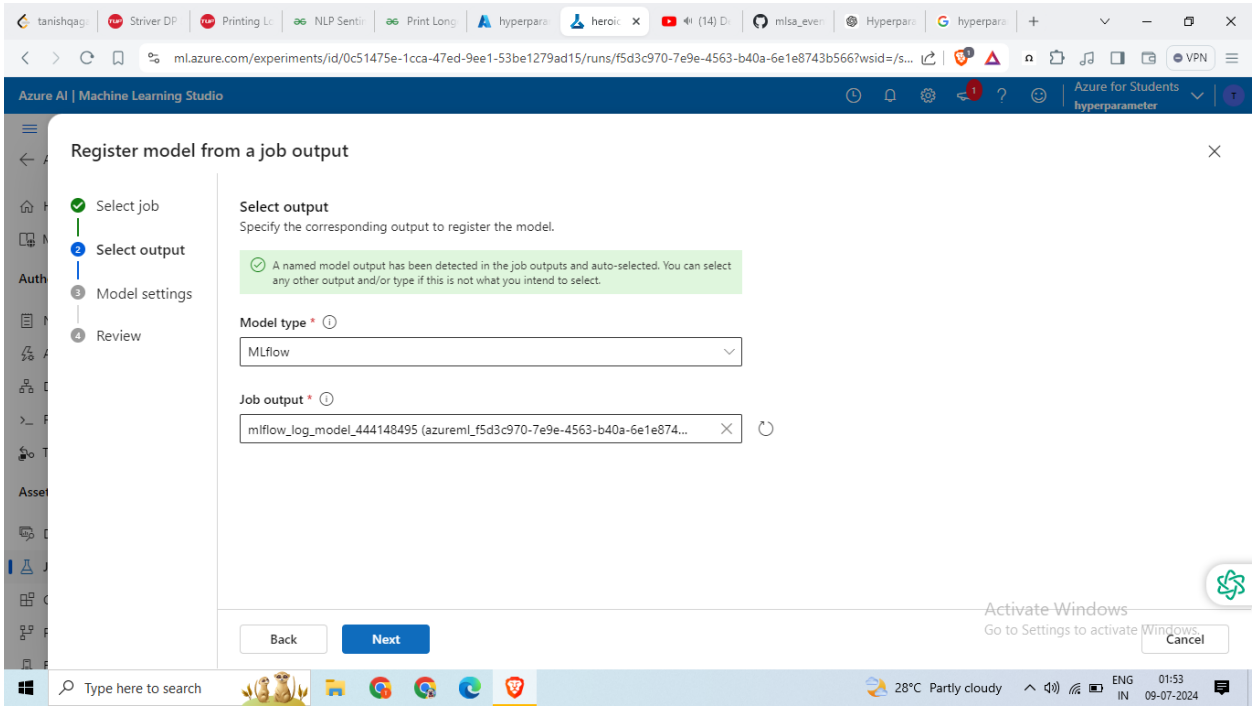
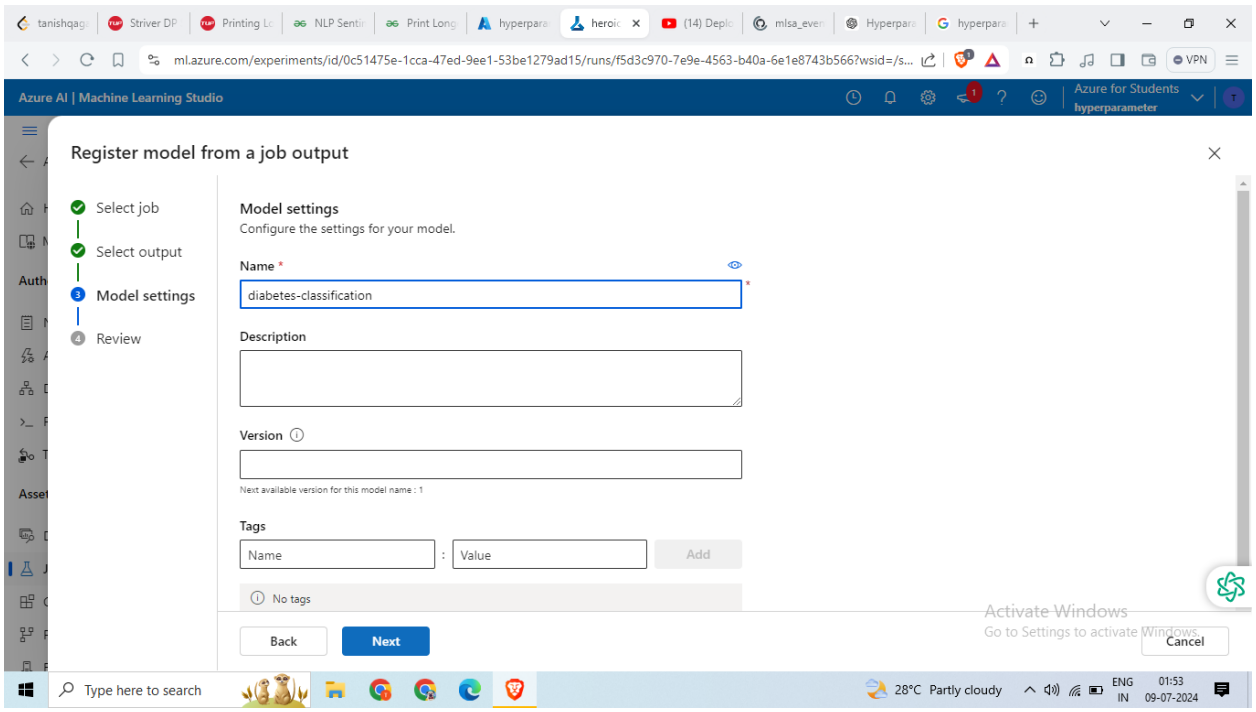
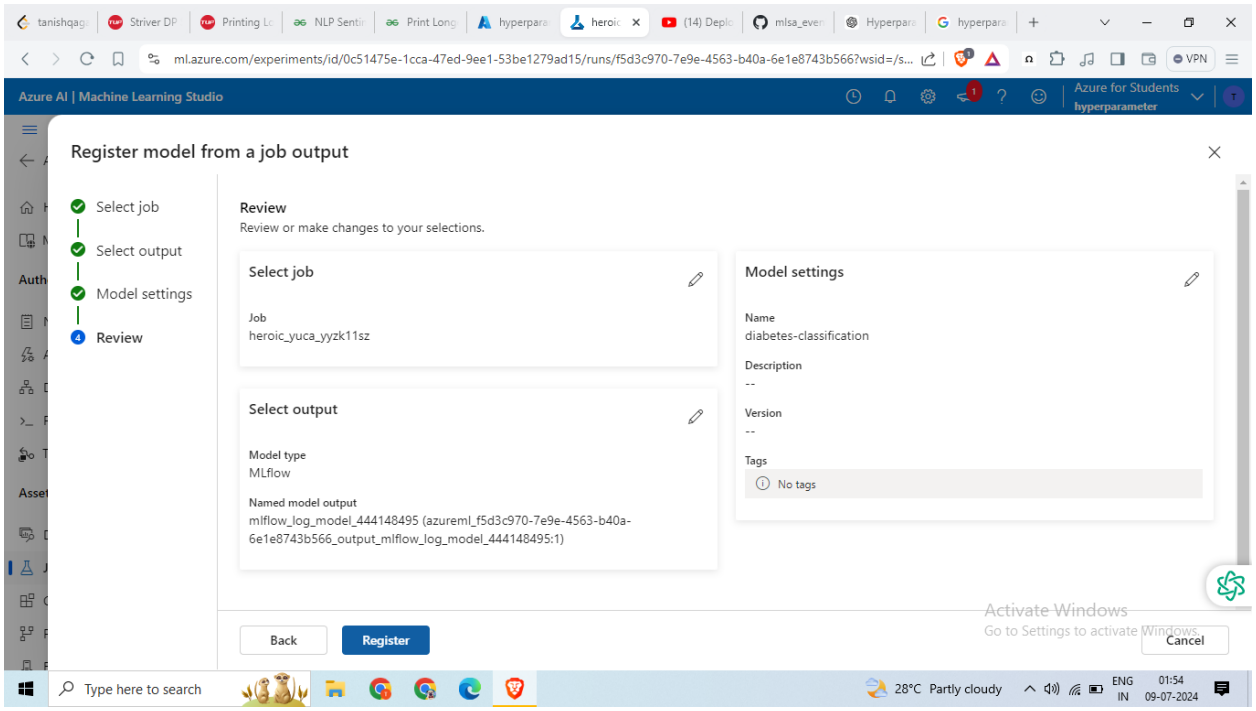
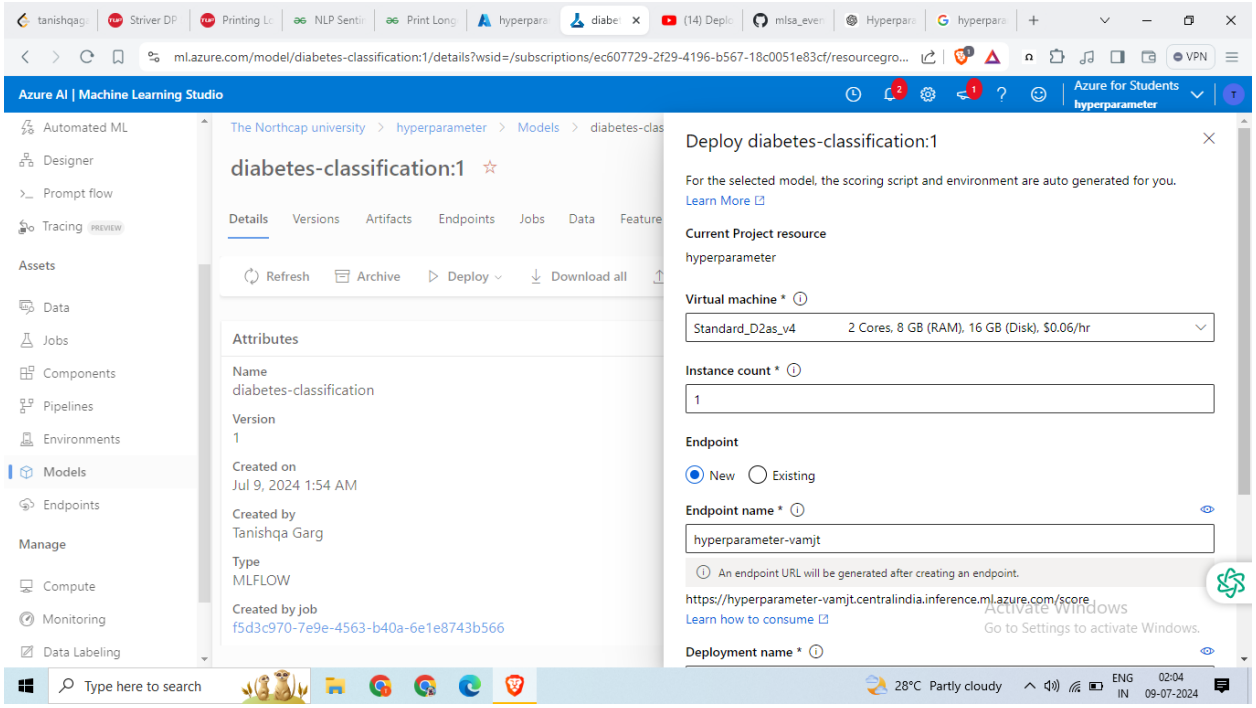
Registering the model

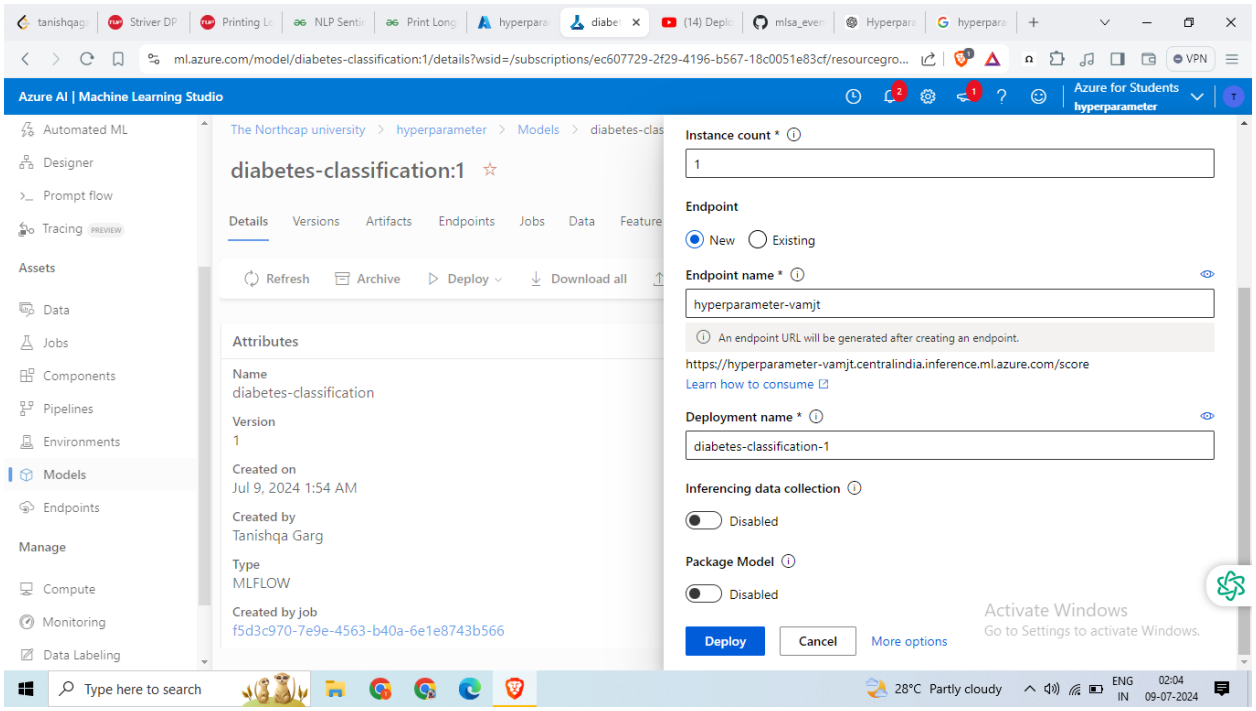
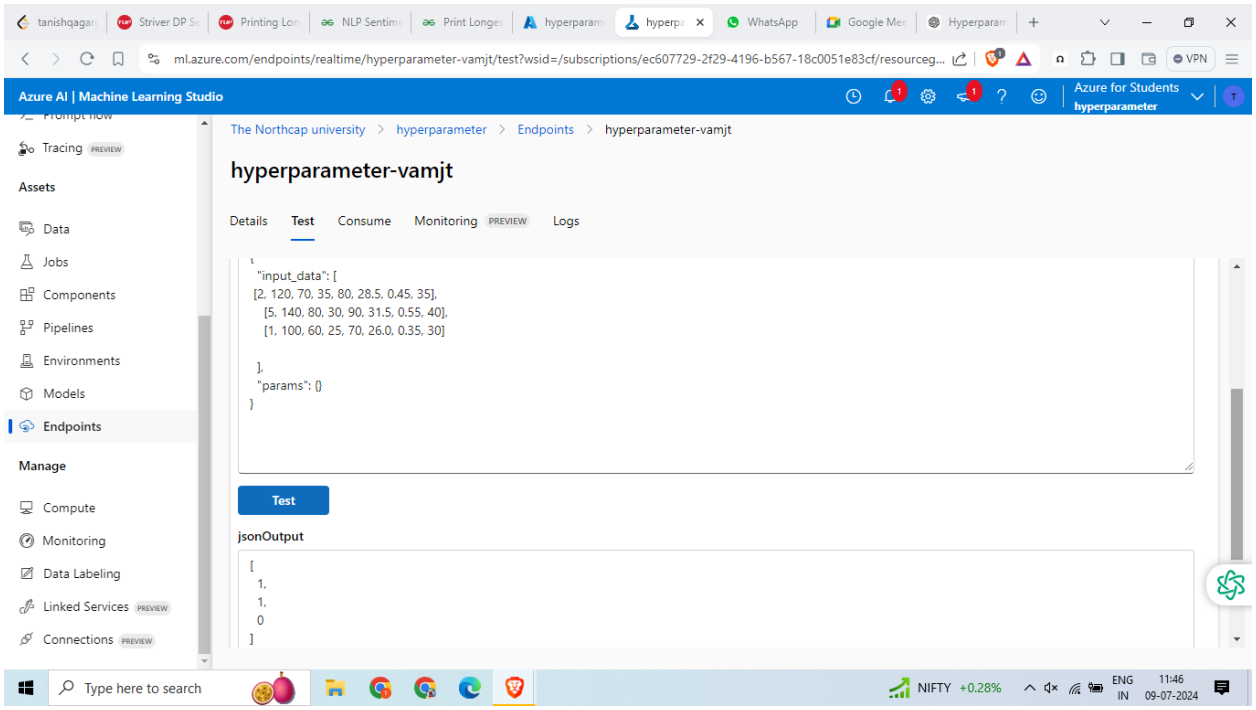






Deploy t he model





Testing the mdoel