MLOps and Cloud Native AI/ML: Data and Machine learning operationalization

Presented by:

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- Associate professor in Data mining and Big Data at National school of applied sciences
- Ex Adjunct professor at euro-Mediterranean university of Fez
- Machine Learning and Big Data professional trainer
- Ex Professor at ENSIAS
- Research interests:
  - Data/Web mining and Natural language processing
  - Knowledge graphs and Machine learning/deep learning
  - Information retrieval and recommender systems

Assignement instructions

- Pick one of the following datasets:

House Sales in King County, USA

Predict house price using regression

IMDB Dataset of 50K Movie Reviews

Large Movie Review Dataset

Student Mental health

A STATISTICAL RESEARCH ON THE EFFECTS OF MENTAL HEALTH ON STUDENTS' CGPA dataset

Assignment instructions

- Using Mlflow
  - Start by preprocessing your data
  - Train 5 ML models
  - Try to track models performance, versions and parameters
  - Save your best model in ONNX format and its dedicated preprocessing transformations (i.e., using transformers API) in pickle format
- Using FastAPI
  - Using the serialized files
  - Create a REST API for your model
  - Package your model as a container using Docker
  - Consume your created APIs using Postman
- Using Flask
  - Create a dedicated application to consume your API
  - Package your application as a container using Docker
- Bonus
  - Deploy your API using Heroku
  - Deploy your containerized API using Azure Container Instance
  - Deploy your model as a service using Azure ML SDK and Mlflow