Orientation Class

By Nurul Akter Towhid

Introduce Yourself

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Course Overview

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Week 1: Get into MLOps

- Course Overview
- Introduction to MLOps
- Preparing the environment for the course
- Dataset discussion
- EDA to gain insight

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Week 2-3: Exploring Data & Deriving Information

- Understanding the project's scope
- Deep dive into the dataset
- Data quality check
- Handling missing values
- Feature engineering for machine learning
- Applying machine learning using scikit-learn/TensorFlow
- Evaluate and interpret the model
- How can we make decisions from the model's output

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Week 4-6: Building a Data Pipeline

- Workflow orchestration
- Understanding our data pipeline
- Turning our notebook into a pipeline
- Deployment of the data pipeline using Airflow
- Data versioning using DVC
- Testing the data pipeline

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Week 7-9: Deploying & Monitoring Model

- ML experiment tracking using MLFlow
- Deploy the model
- Getting the model's output
- Model Monitoring
- Running full project

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Course Logistics

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Class Time & Others

- Every **Saturday 9:00 to 10:00 PM** (+ 40 mins)
- If you miss the class don't worry we will share the recorded class
- If I miss any class CR will share the info
- Also every week I will record and share video tutorials
- You guys need to create your own git repo to share everything you learning and practicing.
- Respect everyone

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Introduction to MLOps

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What is MLOps?

MLOps is a core function of Machine Learning engineering, focused on streamlining the process of taking machine learning models to production and then maintaining and monitoring them.

MLOps stands for **Machine Learning Operations**.

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Maturity of one's MLOps

level			level	
Microsoft	0	No MLOps	0	Google
	1	DevOps, no MLOps		
	2	Automated training	1	
	3	Automated model deployment		
	4	Full MLOps Automated Operations	2	

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Tools for MLOps

- **Experiment tracking**: MLflow
- **Dataset versioning**: DVC
- **Workflow management**: Apache Airflow
- **CI/CD**: Github actions
- **ML model training**: Tensorflow, scikit-learn
- **API**: Flask
- **Containerization**: Docker
- **Monitoring**: Evidently

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Thank You