iNeuron

Project Title	Substance Use Prediction
Technologies	Machine Learning / NLP
Domain	Media
Project Difficulties level	Advance

Problem Statement:

A substance use disorder (SUD) is a condition in which a person's everyday life is significantly impacted by frequent use of substances such as alcohol, narcotics, or cigarettes. According to the National Survey on Drug Use and Health from 2014, one out of every ten Americans aged 12 and above had a substance use disorder. In addition to increased health-care expenditures, crime, and lost productivity, substance abuse costs Americans more than $700 billion every year. The pervasiveness and extensive use of social media highlights the need to investigate its relationship with substance abuse and its potential as a scalable and cost-effective screening and prevention tool.

The main objective here is -

1. To build automated substance use prediction systems, which can be used to identify people who are at risk of SUD.

2. To demonstrate the benefit of using multi-view unsupervised feature learning to combine heterogeneous user information such as Facebook "likes" and "status updates" to enhance system performance.

3. Analyzing rich human behavior data on social media, so that we can also gain insight into patterns of use and risk factors associated with substance use.

Click here to enter text.

Dataset:

You have to collect dataset for this project (e.g., Facebook as a research tool for the social sciences: Opportunities, challenges, ethical considerations, and practical guidelines - PubMed (nih.gov)), and based on that, you have to design your solution and create a repo for the dataset.

Project Evaluation metrics:

Code:
- You are supposed to write a code in a modular fashion
- Safe: It can be used without causing harm.
- Testable: It can be tested at the code level.
- Maintainable: It can be maintained, even as your codebase grows.
- Portable: It works the same in every environment (operating system)
- You have to maintain your code on GitHub.
- You have to keep your GitHub repo public so that anyone can check your code.
- Proper readme file you have to maintain for any project development.
- You should include basic workflow and execution of the entire project in the readme file on GitHub
- Follow the coding standards: https://www.python.org/dev/peps/pep-0008/

Database:
- You are supposed to use a given dataset for this project which is a Cassandra database.
- https://astra.dev/ineuron

Cloud:
- You can use any cloud platform for this entire solution hosting like AWS, Azure or GCP

API Details or User Interface:
- You have to expose your complete solution as an API or try to create a user interface for your model testing. Anything will be fine for us.

Logging:

- Logging is a must for every action performed by your code use the python logging library for this.

Ops Pipeline:

- If possible, you can try to use AI ops pipeline for project delivery Ex. DVC, MLflow , Sagemaker , Azure machine learning studio, Jenkins, Circle CI, Azure DevOps , TFX, Travis CI

Deployment:

- You can host your model in the cloud platform, edge devices, or maybe local, but with a proper justification of your system design.

Solutions Design:

- You have to submit complete solution design strategies in HLD and LLD document

System Architecture:

- You have to submit a system architecture design in your wireframe document and architecture document.

Latency for model response:

- You have to measure the response time of your model for a particular input of a dataset.

Optimization of solutions:

- Try to optimize your solution on code level, architecture level and mention all of these things in your final submission.
- Mention your test cases for your project.

Click here to enter text.

Submission requirements:

High-level Document:

You have to create a high-level document design for your project. You can reference the HLD form below the link.

Sample link:

[HLD Document Link](#)

Low-level document:

You have to create a Low-level document design for your project; you can refer to the LLD from the below link.

Sample link

[LLD Document Link](#)

Architecture: You have to create an Architecture document design for your project; you can refer to the Architecture from the below link.

Sample link

[Architecture sample link](#)

Wireframe: You have to create a Wireframe document design for your project; refer to the Wireframe from the below link.

Demo link

[Wireframe Document Link](#)

Project code:

Click here to enter text.

You have to submit your code GitHub repo in your dashboard when the final submission of your project.

Demo link

Project code sample link :

Detail project report:

You have to create a detailed project report and submit that document as per the given sample.

Demo link

DPR sample link

Project demo video:

You have to record a project demo video for at least 5 Minutes and submit that link as per the given demo.

Demo link

Project sample link :

The project LinkedIn a post:

You have to post your project detail on LinkedIn and submit that post link in your dashboard in your respective field.

Demo link

Linkedin post sample link :

Click here to enter text.

Click here to enter text.