iNeuron

Project Title	Customer Experience Prediction
Technologies	Machine Learning
Domain	Telecom
Project Difficulties level	Advance

Problem Statement:

Globally, the number of mobile-cellular subscriptions is approaching the number of people on the planet, with emerging countries accounting for more than three-quarters of the total. GPS navigation, voice and text over data, and social media exchanges are just a few instances of how we are becoming increasingly reliant on our mobile phones. We expect to be online at all times because our business and personal lives would be disrupted if we weren't. Telecommunications operators (Telcos) are struggling to match these high expectations in a market where traditional phone and text plans are being phased out in favour of data offerings that support a wide range of mobile apps. For telcos, having a clear, up-to-date understanding of customer experience and satisfaction is a critical competitive advantage. Telcos, on the other hand, face the issue of coping with massive amounts of data created by mobile consumers every second.

The main objective here is -

1. Telecommunications operators (telcos) traditional sources of income, voice and SMS, are shrinking due to customers using over-the-top (OTT) applications such as WhatsApp or Viber.

2. In this challenging environment it is critical for telcos to maintain or grow their market share, by providing users with as good an experience as possible on their network. But the task of extracting customer insights from the vast amounts of data collected by telcos

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is growing in complexity and scale every day.

3. To measure and predict the quality of a user's experience on a telco network in real-time is the major aim.

Dataset:

You have to collect dataset for this project, 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.

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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:

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 :

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