iNeuron inblog

iNeuron

Project Title	**Consumer Complaint Analysis (AIOPS PROJECT)**
Technologies	**Deep Learning**
Domain	**Finance**
Project Difficulties level	**Medium**

1. Problem Statement:

Design and build a scalable machine learning pipeline to predict given consumer complaint will be disputed or not.

Visit official site to download data set:

https://www.consumerfinance.gov/data-research/consumer-complaints/

Understanding complaints

- A lack of complaints or a small number of complaints against a product, issue, or firm in the database does not necessarily imply that there is little or no consumer harm. Consumers may be harmed in ways that do not cause them to file a complaint with the Bureau or to blame the product or provider for the harm they have suffered, depending on the nature of the financial product and how consumers use it.
- Consider firm size and/or market share when analyzing complaint volume about a company or product. Companies with more consumers, for example, may receive more complaints than those with fewer customers.
- Consider the population of a state or ZIP code when looking at complaint volume.

2. Dataset:

Dataset is available in JSON and CSV format you can use any format based on your own interest

- Download all complaint data | CSV:

  https://files.consumerfinance.gov/ccdb/complaints.csv.zip

- Download all complaint data | JSON

  https://files.consumerfinance.gov/ccdb/complaints.json.zip

3. 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 integrate online MySQL database in your TFX machine learning pipeline for metadata store.

➢ **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.

4. 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.

  Kindly visit at below URL for sample high level document preview.

  https://drive.google.com/file/d/1BIaEtDPCWk6GQl_G9Idcw3pGWxxngrYn/view?usp=sharing for

- **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.

  Kindly visit at below URL for sample low level document preview.

  https://drive.google.com/file/d/15-3IrvNZXdeD0-aD6f4OSbopcYe5cAGH/view

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

  Kindly visit at below URL for sample Architecture document preview.

  https://drive.google.com/file/d/1RXbk3vCLueOtVfSIfenHxT5gXqnZMmzW/view?usp=sharing

- Presentation: Once solution has been designed and build and it is operational. Create a presentation video and explain your project development experience and hurdles you faced, challenges you resolved and anything that you feel is really important to share.

Share your video link for review

- **Project code:**

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

- **Detail project report:**

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

  Kindly visit at below URL for sample detail project report preview.

  https://drive.google.com/file/d/1Z3gvSOAhA3nbf-_GZgV0C76xwudBK-RN/view?usp=sharing

- **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.

Kindly visit at below URL for sample LinkedIn post preview.

https://www.linkedin.com/posts/animeshnayak_yolo-datascience-kaggle-ugcPost-6815656927792525312-Xp9z