Sughosh Dixit

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Summary

- Data Scientist and product owner with experience in developing end-to-end machine learning solutions for antimoney laundering and large-scale analytics. Skilled at building data pipelines, designing and deploying ML models, and leading cross-functional teams. Passionate about generative AI and creating bespoke AI models.

Experience

Oracle Financial Solution Services **Sept 2024 – Present**

Data Scientist *Bengaluru*

- ML4AML Product Development and Ownership: Serving as the product owner for the Machine Learning for Anti-Money Laundering (ML4AML – ASC) product. Contributing to the development of this cutting-edge solution, which leverages advanced ML algorithms to identify suspicious financial transactions and comply with regulatory requirements.
- Feature Engineering and Model Building: Designed and implemented complex feature engineering pipelines to improve model performance and detect anomalies in large-scale financial data.
- Data Analysis and Visualization: Developed robust dashboards and visualizations to provide actionable insights for compliance teams using Python libraries such as Matplotlib and Seaborn.
- Collaboration with Cross-Functional Teams: Worked closely with domain experts, engineers, and analysts to fine-tune the models and deploy them in production environments seamlessly.

Oracle HCM **Sept 2020 – Sept 2024**

Senior Data Analyst *Bengaluru*

- Data Reports Development: Working with Cross-Functional Teams ETL based on Business Intelligence requirements and build user friendly data reports on Oracle Cloud HCM for clients in Automotive, Retail and Luxury Hotel industries. Building Data Visualizations using SQL, PLSQL to get the required calculations and statistics to showcase in a presentable format like an excel or a PDF insight report, with frequent feedback loop from Clients.
- Data Integration: Building Data Integrations and Pipelines to bridge payroll calculations for the client, which are most essential for their compensation.
- Application Development: Have successfully deployed 2 complex Oracle APEX applications with trained Oracle Digital Assistant integration (ODA) among 3 where the latter is subject to deployment.

Siemens **Feb 2020 – May 2020**

Software Engineer *Bengaluru*

- Lead Gen Project: Worked on a Lead Gen Project of Demand Planning to provide Business leads to the organization through scraping data thorugh various open-source tender website and dumping the data presentably on the application which involved a large code base on Git which was collaboratove effort.
- SCM Project: To enhance the billing process of Supply Chain Managemement worked on an OCR (Optical Character Recognition) application with continuous model training to automate the complete billing process. Flask framework with SQLAlchemy (Code first database approach) was used and MSSQL as the database server.

Projects

OpenCV-based JPEG Image to STL File Rendering **Top 15 @ Rakathon**

- Solution to render a given 3D shape's basic orthographic view into a 3D STL file format. Based on the contour levels the geometric net will be classified into various views, and these views are folded with each other to produce a 3D shape. This application also was presented in a hackathon conducted at Rakuten, which came in the 'Top 15 Promising Ideas' category. [Code on GitHub]

Optimal Path Determination Using AI

- Implemented an optimization model using Depth-First Search (DFS) and Recursive Best-First Search (RBFS) in Python to dynamically find paths in graphs. Implemented the solution in a PEAS environment.[Code on GitHub]

Algorithmic Trading with KiteConnect

- A comprehensive project on Algorithmic Trading, to optimize and gain , maximum profits. Zerodha has provided a great API in the form of KiteConnect to enable techno traders to do Day Trading and maximize their profits while automating the exercise of trading using ML algorithms aptly. [Code on GitHub]

Graph Implementation to see combining of Vaccines

- Implementation of graph as a data structure to connect different Covid vaccines and their combinations to fight different strains/variants of Cov-19 virus. [Code on GitHub]

Tic Tac Toe with Minimax AI

- Designed a Tic Tac Toe game for 3x3 and 4x4 grids, featuring an AI opponent utilizing the minimax algorithm. [Code on GitHub]

E-Commerce Data Analysis Using HDFS

- Implemented an exploratory data analysis (EDA) of a European e-commerce dataset by integrating Hive and Derby with Hadoop.

Hotel Waiter Tip Prediction

- Applied locally weighted regression to predict hotel waiter tips using a machine learning model. [Code on GitHub]

Project Alphers

- Developed an early-age education monitoring application to provide insights on strengths, weaknesses, and talents of children. [Code on GitHub]

Football Club Management Tool

- Created a comprehensive management tool for football clubs to handle various activities and data digitally.

Face Recognition App

- Built a face recognition and emotion detection application using OpenCV, machine learning, and Django. [Code on GitHub]

Video Activity Recognition

- Implemented a video activity recognition model using Convolutional Neural Networks (CNNs), achieving 89.58% accuracy. [Code on GitHub]

S&P BSE Sensex Index Price Prediction

- Developed a regression model to forecast the BSE Sensex index, aiding in near-term predictions. [Code on GitHub]

Sign Language Classifier Using CNN

- Classified American Sign Language hand gestures using a deep neural network with 24 classes. [Code on GitHub]

Covid-19 News Articles Analysis

- Created a knowledge graph to analyze entities and relationships in Covid-19 news articles using PyTorch and CNTK. [Code on GitHub]

Diabetes Prediction with Naive Bayes

- Predicted diabetes in individuals using a Naive Bayes classifier with hyperparameter tuning for improved accuracy. [Code on GitHub]

Complexity Estimation of 2D CAD Drafting

- Estimated complexity of 2D CAD drawings by extracting entities like arrows, lines, circles, and text using OCR, CNN, and OpenCV techniques. Capstone project during M.Tech. [Code on GitHub]

Generative AI Personal Dataset and LoRA Training

- Created a personal dataset of thousands of AI-generated images and videos to showcase AI literacy. Trained two LoRA models using the ComfyUI workflow and HuggingFace tools to generate high-fidelity images of a small group of people, demonstrating practical mastery of image fine-tuning techniques. Built a proof of concept that leverages ComfyUI and LoRA to produce customised AI portraits.

AI Content Creation for YouTube

- Established a YouTube channel to showcase AIgenerated content, including deep dives into generative models and demonstrations of custom image and video synthesis using ComfyUI and other tools. Leveraged personal LoRA models and agentic AI workflows to produce engaging educational content.

Accomplishments

- Rakathon 2.0 (2019): Selected in top 15 most promising ideas.
- Garage48 Covid19 Hackathon (2020) : built an app called QuarantineForSure)
- PANIIT Hackathon IISC (2021) : Selected in top 20 promisisng ideas, worked on an Early age Education and Talents prediction application (Project Alphers)
- Karnataka State Police Hackathon (2023) : (Finalists, built a Flask based Face recognition application of Criminals using Image Data Augmentation and GAN (Image based Generative AI) and deployed the application in Microsoft Azure Cloud
- FFI Scale91 Fintech Hackathon (2024) : Currently working on a Fintech solution for Algorithmic trading by leveraging Zerodha's KiteConnect API
- Technologies Leveraged: : ReactJS, Angular, Azure, Flask, Django, AWS, OracleCloud, GraphQL, NodeJS
- Successfully completed the Gen AI cohort from 100X Engineers, one of the top Gen AI cohorts in India.

Education

Birla Institute of Technology and Science (WILP) **Oct. 2021 – Oct. 2023**
Master of Science in Data Science and Engineering; GPA: 7.33 *India*

Bangalore Institute of Technology **Aug. 2016 – July 2020**
Bachelor of Engineering in Information Science and Engineering; GPA: 8.34 *India*

Skills

- Web Development: Worked on numerous end-to-end web development projects, using Javascript frameworks like React and Angular, Flask and PHP on the back-end and SQL, MySQL and MSSQL databases.
- Python: Got python certified Hackerrank, and completed a holistic certifiction course named 'Joy of Computing in Python' in Swayam/NPTEL.
- Tools and Technologies: Python (LinkedIn Certified), JavaScript, SQL (LinkedIn Certified), PL/SQL (Oracle Certified), Java (Oracle Certified), React, Angular, Flask, Django, CI/CD, Git (LinkedIn Certified)
- Data Analysis – EDA: Have worked on multiple projects to perform exploratory data analysis using Python and have produced clear, informative visualizations in Jupyter notebooks while applying a range of machine learning techniques. As part of my M.Tech also worked on projects using industry-standard BI tools.
- Machine Learning: Have worked on multiple ML projects some of which are mentioned above, and aspire to apply the knowledge gained in the industry. (tensorflow, PyTorch, CNTK)
- Generative /Agentic AI: Experienced with agentic AI frameworks and generative models. Handson experience training LoRA models, using ComfyUI pipelines, and working with latent diffusion techniques to generate and customise images and videos.