SOUMYA BAVOOR

Artificial Intelligence Engineer
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CAREER SUMMARY:

Bringing **2.8 years** of immersive experience in **Data Science**, I specialize in catalyzing growth and scalability in **AI-driven products**. My expertise lies in constructing models using both machine learning and deep learning techniques, with a focus on revolutionizing the **Automotive** and **Healthcare** sectors.

WORK EXPERIENCE:

Continental Automotive, Bangalore

Software Developer | December 2022 – September 2023

- Developed Software for **360-degree camera (Surround-view)** to provide guidelines on the head unit depending on the vehicle motion, for Audi and Porsche customers.
- Delivered a fully functional code base to the customer using C++ language based on required feature.

Projects

- Advance driver controller: Designing advanced driver assistance software to integrate surround view camera input from 4 cameras into the head unit. Utilizing blending methods to overlay various guidelines onto the car dashboard, enhancing **driver safety** with **clear visual instructions** for optimal driving.

Sagility, Bangalore

Software Engineer (Data Scientist) | January 2022 – December 2022

- Facilitated **10+ process deep dive sessions** to analyze and understand business processes, enhancing collaboration between the Data Science team and stakeholders.
- Developed and implemented comprehensive data cleaning functions and performed meticulous Exploratory Data Analysis (**EDA**) on **15+ datasets,** ensuring data integrity and accuracy.
- Led multiple experiments to evaluate the usability of data obtained from various teams, effectively communicating complex analytical findings to multiple partners and senior leadership.
- Applied **Machine Learning techniques** on **20+** cleaned datasets, achieving an increase in model accuracy through iterative improvements.
- Transformed **5 projects into production-ready Python scripts** and integrated them with user interfaces using the Flask framework, enabling end-to-end deployment and accessibility for stakeholders across the organization.

Projects

- Error propensity model: Engineered a claim-level dataset comprising **100,000** data points to develop a classification model using the XGBoost algorithm. Achieved a classification accuracy of **87% in distinguishing between provider and non-provider claims**.
- Service operation (Process Optimization): Conducted feature engineering to uncover data trends and engineered a predictive model using the Random Forest regression algorithm to forecast the Turn Around Time (TAT) for each claim. **Achieved a prediction accuracy of 60%, resulting in a 3% improvement in process optimization for time and human resources allocation**.

Hinduja Global Solutions, Bangalore

Associate Software Engineer | November 2020 - January 2022

- Completed a three-month entry-level training program, gaining theoretical knowledge in key machine learning concepts such as Regression, Naive Bayes, Deep Learning, Gradient Boosting, Random Forests, SVMs, Neural Networks, and Natural Language Processing.
- Received personalized one-on-one mentoring sessions focused on gaining a deep understanding of the healthcare industry, its data intricacies, and my role in driving business value through data-driven insights.

Projects

- Web development: Implemented a **Proof of Concept (POC) for web development using Python**, Flask, and HTML, leading to the efficient deployment of **5+ projects** to clients. This initiative notably expedited time-to-market for each project.
- Medicare secondary payer: Engineered a classification model and implemented data extraction using OpenCV to retrieve key entity data from unstructured data sourced from scanned PDFs. This automation initiative drastically **reduced human interaction by 95% and processing time for each PDF from 2-10 hours to just 2-30 minutes**, enhancing operational efficiency and throughput.

EDUCATION:

Bachelors in Electronics and Communication Engineering August 2016 – August 2020 | MVJ College of Engineering, Bangalore

Masters in Artificial intelligence September 2023 – September 2024 | Brunel University, London

Modules – Data Analysis, Data Visualization (Tableau, PowerBI), Artificial intelligence, Machine learning, Deep learning (Large language models (LLM), Computer vision, Generative adversarial networks (GAN))

Current Research – **LLMs** and **VMs** in Autonomous Vehicles.

- The aim is to automate the process of image rendering on HMI unit using LLMs and VMs on the vehicle dataset and guideline requirements to generate Prompt and use the prompt as instruction to image generation.
- Proof of concept for other use cases like camera calibration, Software testing for surround view camera.

SKILLS:

Programming language: Python (NumPy, Pandas, Scikit-Learn), R, SQL

Data visualization: Tableau

Statistics, Machine learning, Deep learning, Computer vision, Natural language processing, large language models(LLM), Large Visual Models (LVM)

Tools: Jupyter notebook, Git, Microsoft softwares