Shravan Selvavel

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Education

Duke University Durham, NC

B.S. Computer Science, B.S. Statistics | ***GPA: 3.96/4.0*** *August 2024 – May 2028*

- **Relevant Coursework:** Applied Machine Learning, Database Systems, Data Structures and Algorithms, Computer Architecture, Probability, Statistical Computing, Multivariable Calculus, Linear Algebra, Calculus I-III

Experience

Machine Learning Intern May 2025 – July 2025

Jewelers Mutual Group *Durham, NC*

- Building and evaluating segmented supervised learning models utilizing **Scikit-Learn**, implementing a unique ensemble model consisting of **Catboost** and **XGBoost** methods combined with **SMOTE-TOMEK** oversampling, to detect potentially fraudulent insurance claims in a highly imbalanced jewelry dataset
- Collaborated with the data science team to develop tools that balanced precision-recall and lifted ROC-AUC **25%** above baseline, boosting claims-processing efficiency by **90%** and generating **$30,000** in annual savings
- Migrated core analytics codebase to **PySpark**, enabling distributed processing, seamless integration with company data pipelines, and scalable handling of datasets 10x larger without performance loss

AI Workflow Intern January 2025 – May 2025

SunCast Media *Durham, NC*

- Engineered automated workflows using **JavaScript** and the AI platform **Simplified**, derived from **Python** code, reducing processing time across departments within SunCast Media's business operations by over **90%**
- Automated LinkedIn analysis to classify personal/company profiles, increasing prospecting efficiency by **85%**
- Implemented a **NLP-based reasoning model** to process/summarize transcripts of over **800** podcast episodes using text filtration/keyword extraction, generating timestamped takeaways and enhancing content accessibility

Product Data Analyst August 2024 - December 2024

Ecolytics *Durham, NC*

- Analyzed user behavior with **Hotjar** to identify friction in user flows, leading to **25%** gain in site engagement
- Conducted competitor research, resulting in data-driven design proposals presented as **Figma mockups**
- Collaborated to enhance usability for a platform serving business sustainability tools to **9,000+ businesses**

Machine Learning Student Researcher June 2023 – October 2024

University of North Carolina at Wilmington *Wilmington, NC*

- Researched real-time detection of Atrial Fibrillation (AFib) using ECG time-series data, statistical feature engineering, and supervised learning models via **Scikit-learn**—to classify arrhythmic episodes
- Engineered a novel stepping-window algorithm primarily utilizing XGBoost, CatBoost, and LightGBM for temporal parsing of ECG signals, enabling real-time feature extraction across time and frequency domains
- Utilized **Pandas, SciPy**, and **Matplotlib** for preprocessing, engineering features, and generating visualizations
- Achieved **96% classification accuracy**, outperforming baseline models by **3%**; presented research at James Madison University and UNCW, earning **2nd place** at the North Carolina Science and Engineering Fair

Projects

Klados AI | *Python, React Native, Tailwind CSS, PostgreSQL* May 2025 – Present

- Building a mobile app using **Gemini API/LangChain**, **React Native** and **Nativewind CSS** frontend, and **Python** and **PostgreSQL** backend, helping students generate customizable project ideas tailored to the user
- Currently implementing **LangGraph** for memory retention and reasoning-based dialogue, aiming to expand into deployment of an end-to-end process entailing project ideation tools, AI-driven resources, and timeline generation

Technify Initiative Internal Website | *HTML, CSS, JavaScript* October 2024 – May 2025

- Developed a responsive web application using **HTML, CSS**, and **JavaScript**, featuring dynamic pages focused on building UI/UX components, improving user flow, and ensuring cross-device compatibility, enhancing accessibility
- Contributed to a platform that has connected **200+** university students with nonprofits across developing countries for pro-bono tech consulting projects, expanding global access to technical support

Technical Skills

Languages: Java, Python, SQL (Postgres, MySQL, SQLite), JavaScript, HTML/CSS, C, R, Assembly
Frameworks: React, React Native, Expo, FastAPI, LangGraph, LangChain, Tailwind CSS
Developer Tools: Microsoft Office, Tableau, PowerBI, AWS, Azure, Github, Databricks, VSCode, Jupyter Notebook
Libraries: Scikit-Learn, TensorFlow, PyTorch, pandas, NumPy, Matplotlib, SciPy, Seaborn, ChromaDB, BeautifulSoup4