Satvik Panchal

XXX-XXX-XXXX • panchalsatvik@gmail.com • https://www.linkedin.com/in/satvik-panchal/ • CA

EDUCATION

B.S. Computer Science   May 2024
Arizona State University, Tempe, AZ   4.0 GPA
Honors: Dean's List Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024
M.S. Computer Science   May 2025
Arizona State University, Tempe, AZ   3.92 GPA

TECHNICAL SKILLS

Programming Languages: Python, Java, R, C, C++, C#, SQL
Tools, Database, OS, and Libraries: Apache Kafka, Splunk, GitHub, Astah UML, JIRA, Bamboo, Bitbucket, Confluence, MySQL, PostgreSQL, Ubuntu, Pandas, TensorFlow, Scikit-learn, NumPy, Optuna, Neural Network Intelligence, Pgmpy

PROFESSIONAL EXPERIENCE

MOOG Space and Defense, Gilbert, AZ: Software Engineering Intern   May 2024 – Present
- Implemented rigorous **unit testing** in **C** for critical software components using the **Unity framework** and **CMock**, achieving **100% code coverage** verified with **gcov** to ensure robust and reliable code quality.
- Deployed tested code on FPGA-based development kits, validating integration and functionality across multiple systems to ensure product reliability and data integrity.
- Developed a **C#** application for efficient data transfer through serial ports in **$1 million+** aviation components, complemented by a user-friendly **GUI** designed to enhance system connectivity.
- Built an optimized Microsoft SQL Server database integrated with a Python Streamlit UI, leveraging advanced CSS and HTML for rapid (less than 3s) data retrieval and user engagement.

Solisa AI (Startup), Chandler, AZ: Machine Learning Engineering Intern   May 2024 – July 2024
- Developed a propensity to convert model in **TensorFlow** utilizing a neural network, trained on over **13,000** data points, and achieving an **AUC score** of **75%**.
- Employed advanced **feature engineering** techniques, include data clustering with **DBSCAN** and prudent undersampling using the **NearMiss** technique, to optimize model performance.
- Used the **Optuna** library and the **Neural Network Intelligence** framework for automatic hyperparameter tuning and real-time monitoring of model training history, enhancing overall model effectiveness.

Astro Seed, Tempe, AZ: Machine Learning Engineer (Contract, Capstone Project)   August 2023 – May 2024
- Secured **second place** out of **130+** teams, each working on varied capstone projects.
- Led a team of five students to construct a **CNN AI** model, utilizing **TensorFlow** library and the **ResNet50** architecture with the **Adam** optimizer, achieving **97.67%** accuracy in detecting plant nutrient deficiencies.
- Directed the design and training of the model, integrating additional layers and employing **confusion matrix analysis** to enhance the precision of plant health diagnostics.

Nike, Beaverton, OR: Software Engineering Intern (Contract)   Jun 2022 – Aug 2022
- Designed a **Python** algorithm for sentiment analysis across observability platforms.
- Engineered a **Splunk** health visualization dashboard that dynamically displays real-time data for system monitoring.
- Architected a comprehensive audit visualization dashboard, leveraging **Splunk Cloud** and writing queries to display asset kind, name, and time log data, ensuring efficient data tracking and management.

RELEVANT PROJECTS

Probabilistic Risk Modeling for Credit Defaults   October 2024 – December 2024
- Developed a **Bayesian Network** model for credit default prediction, achieving an **ROC AUC** score of 72%. Selected 30 features from a set of 80 using **Random Forest**, **Mutual Information**, and **XGBoost** to capture intricate dependencies.
- Preprocessed a large-scale loan dataset by handling 50%+ missing values, reducing outliers with 1%-99% clipping, and discretizing numeric features into 4 bins. Applied **Hill Climb Search** with BDeu Score to construct the model structure.
- Optimized network structure utilizing grid search on scoring methods and ESS values for fine-tuning.

EXTRACURRICULAR EXPERIENCE

Python Users Group, Tempe, AZ: President   Aug 2022 – May 2024
- Managed a **100+** member club while providing strategic guidance to officers and executives, resulting in seamless operations, and fostering cohesive teamwork.
- Orchestrated large-scale Python workshops, engaging, and equipping a diverse audience of over **50 participants** with practical skills in areas such as database management, web scraping, and other advanced topics.