Satvik Panchal

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EDUCATION

M.S. Computer Science — May 2025
Arizona State University, Tempe, AZ — **3.9 GPA**
B.S. Computer Science — May 2024
Arizona State University, Tempe, AZ — **4.0 GPA**
Honors: Dean's List Spring 2021 – Spring 2024

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Java, R, C#, SQL
Technologies & Frameworks: Apache (Kafka, Spark), Splunk, GitHub, JIRA, MySQL, PostgreSQL, REST APIs, Ubuntu, Pandas, TensorFlow, PyTorch, Scikit-learn, NumPy, Optuna, Docker, FastAPI, Flask, AWS (Lambda, SQS, EC2, ECR, CloudWatch, IoT Core)

PROFESSIONAL EXPERIENCE

MOOG Space and Defense, Gilbert, AZ: **Software Engineering Intern** — May 2024 – April 2025
- Engineered an optimized **SQL Server database** of flight-critical hardware components with a **Streamlit UI**, reducing retrieval time from **5 minutes** to **under 3 seconds** for engineers**.**
- Implemented rigorous **unit testing** in **C** for flight-critical software using the **Unity** and **CMock**, achieving **100% code coverage** verified with **gcov** to ensure robust and reliable code quality.
- Deployed unit-tested code on **FPGA-based dev kits**, validating software functionality in flight component environment.

Solisa AI (Startup), Chandler, AZ: **Machine Learning Engineering Intern** — May 2024 – July 2024
- Built and trained a **Python TensorFlow** model on over **13K+** data points, achieving an **AUC score** of **75%** while reducing false negatives using **DBSCAN** clustering and **NearMiss** undersampling.
- Automated hyperparameter tuning in **Python** with **Optuna** and **Neural Network Intelligence**, improving **customer conversion prediction accuracy** by **7%**.

Astro Seed, Tempe, AZ: **Machine Learning Engineer Intern** — August 2023 – May 2024
- Led a 5-person team to build and fine-tune a **Python TensorFlow ResNet50 CNN** for plant nutrient deficiency detection, achieving **97% accuracy** and boosting precision by **12%** through custom convolutional layers.
- Earned **2nd place** out of **130+** teams for delivering a **high-performing ML solution** in a competitive project setting.

Nike, Beaverton, OR: **Software Engineering Intern** — June 2022 – Aug 2022
- Developed an audit tracking solution in **Splunk Cloud**, writing advanced **SQL queries** to analyze asset metadata, improving audit efficiency and accuracy.
- Built a **Splunk**-based health visualization dashboard for real-time system monitoring, reducing incident detection time.
- Developed a **Python sentiment analysis** script integrated with **Splunk** dashboards, enhancing system monitoring.

PERSONAL PROJECTS

AI-Powered Job Tracker — July 2025 – Present
- Engineered an **AI job tracker** integrating **Gmail API** + **OAuth 2.0 (GCP)**, a **FastAPI backend**, and a **HTML/CSS/JS (Tailwind)** UI, with a dual-classifier pipeline (**Ollama SLMs/Gemini LLM**) with **custom prompts** for email parsing.
- Achieved **92%** accuracy and cut latency by **40%** using adaptive batching, model warmup, and robust **JSON parsing**.

Jarvis AI Assistant — July 2025 – Present
- Engineered a **voice-first AI assistant** integrating wake-word detection (**VOSK**), **Open AI's Whisper** transcription, **Edge-TTS** voice output, and **Gemini LLM** to drive autonomous reasoning and orchestrate multi-tool workflows.
- Built a **RAG powered memory + tool ecosystem** using **ChromaDB (all-MiniLM-L6-v2 embeddings)** for context-aware retrieval, real-time screen analysis, external API connectivity (weather, system operations), and seamless **UI**.

AWS AI-Powered Serverless Edge Face Recognition — February 2025 – May 2025
- Architected an **edge AI pipeline** with **AWS IoT Greengrass** + **EC2** + **MQTT**, enabling real-time face detection (**MTCNN**) with **100% accuracy** and **0.77s average latency** on **100 test images**.
- Built a **cloud-to-edge ML inference system** with **AWS Lambda, SQS,** and **FaceNet**, adding a custom **Python autoscaler** that scaled **EC2 instances** to process **100 requests** in **96s** with **zero failures**.

EXTRACURRICULAR EXPERIENCE

Python Users Group, Tempe, AZ: President — August 2022 – May 2024
- Led a **100+** member club, mentoring officers, streamlining, and organizing **Python workshops** (**50+ participants)** on topics such as ML, deep learning, data engineering, and cloud computing.

Arizona State University, Tempe, AZ: **Student Mentor** — March 2024 – May 2025
- Mentored **300+ students** through events supporting academic success and career exploration (**SWE, AI, Data Science**).