

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
<ul style="list-style-type: none">Engineered a database of flight-critical hardware components with a Streamlit UI for rapid (less than 3s) data retrieval.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.	
Arizona State University, Tempe, AZ: SCAI Peer Mentor	March 2024 – May 2025
<ul style="list-style-type: none">Led inclusive events and mentorship programs that helped 300+ students feel confident navigating college life, thrive academically, and explore careers in computing, research and industry (SWE, AI, Data Science) pathways.	
Solisa AI (Startup), Chandler, AZ: Machine Learning Engineering Intern	May 2024 – July 2024
<ul style="list-style-type: none">Developed a TensorFlow model trained on over 13,000 data points, and achieving an AUC score of 75%.Employed advanced feature engineering techniques, including 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
<ul style="list-style-type: none">Secured second place out of 130+ teams, each working on varied capstone projects.Led a 5-person team to build a ResNet50 CNN in TensorFlow, achieving 97.67% accuracy in plant deficiency detection.Architected and fine-tuned the model by integrating custom layers, improving class-wise precision by 12%.	
Nike, Beaverton, OR: Software Engineering Intern (Contract)	June 2022 – Aug 2022
<ul style="list-style-type: none">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

Jarvis AI Assistant	July 2025 – Present
<ul style="list-style-type: none">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
<ul style="list-style-type: none">Architected an edge AI pipeline using AWS IoT Greengrass, EC2, and MQTT for real-time face detection with MTCNN, achieving 100% accuracy and 0.77s average latency on 100 test images.Deployed serverless pipeline with AWS Lambda, SQS, and FaceNet, enabling a full-stack cloud-to-edge ML inference.Implemented a custom autoscaler in Python that dynamically launched up to 15 EC2 instances based on SQS load, completing inference workloads (e.g., 100 requests) in 96 seconds with zero failures.	
AI Cheers Bot	February 2025 – May 2025
<ul style="list-style-type: none">Engineered an AI-driven robotic arm system using YOLOv8 for real-time cup detection (98% accuracy on 250+ labeled images) and a ResNet18 servo regressor (MSE:0.012) to perform a cheers gesture with 90% success on a Raspberry Pi.	

EXTRACURRICULAR EXPERIENCE

Python Users Group, Tempe, AZ: President	August 2022 – May 2024
<ul style="list-style-type: none">Led a 100+ member club, mentoring officers and streamlining operations to build a cohesive leadership team.Orchestrated large-scale Python workshops for 50+ participants, covering practical skills in areas such as machine learning, deep learning, data engineering, cloud computing, and other advanced topics.	