

# Ananya Pagadala

☎ 469-426-9880   📍 San Jose, CA   ✉ apagadala@scu.edu   📱 /ananyapg   🌐 /ananyapags   🌐 pags.dev

## Education

### Santa Clara University

#### Masters of **Computer Science and Engineering**

Dec 2025

- Research Focus: Tensor Core Optimization for Deep Learning Applications
- Peer Educator and Course Facilitator for Mobile App Development

#### Bachelors of **Computer Science**

Jun 2024

- Spanish Language and Mathematics minor
- Critical Thinking and Writing 1 & Critical Thinking and Writing 2 Teaching Assistant
- Research Focus: Ethics study on American Public Safety Facial Recognition Algorithms on People of Color

## Experience

### **Software Engineer**, Frugal Innovation Hub

Jun 2024 - now

- Engineered a scalable, full-stack bilingual mathematics mobile learning platform for 500+ active users using Flutter
- Integrated Firebase with Firestore and OAuth2 for real-time sync and secure authentication, improving performance by 25%.
- Developed a responsive UI with i18n for localization and WCAG 2.1 accessibility, increasing engagement by 40%.

### **Machine Learning Intern**, National Science Foundation REU

Jun 2023 - Sep 2023

- Designed scalable ML workflows using Pytorch and TensorFlow for malware detection in dynamic threat environments
- Automated ETL processes with preprocessing, dimensionality reduction, and feature selection on Malicia's 50+ families.
- Used synthetic oversampling (GANs, S.M.O.T.E., ADASYN) to handle class imbalance, improving model performance
- Applied hybrid LSTM-Transformer models, achieving 98% accuracy via Bayesian hyperparameter tuning and validation

### **Miller Center Fellow**, SuitUp

Mar 2023 - Nov 2023

- Selected as 1 of 16 students awarded the 2023 Miller Center Lewis Family Fellowship and Scholarship
- Developed an NLP model to automate text classification and qualitative analysis, enabling data-driven scaling decisions
- Streamlined CRM in Salesforce through real-time data organization for a 12% reduction in working capital

### **President**, ACM-W (Association for Computing Machinery - Women's Chapter)

May 2022 - Jun 2023

- Led 4 teams of 2-5 developers to build projects that support student growth and success at SCU
- Promoted tech literacy through 8 workshops, two summits, and 4 Hackathons for audiences across the Bay Area
- Co-directed Hack for Humanity, Santa Clara University's largest student-run Hackathon with 400+ attendees
- Supervised 12 developers to build dynamic registration and applicant management systems for 500+users

### **Computer Science Instructor**, Juni Learning

Dec 2020 - Mar 2023

- Taught 45+ clients Python (Machine Learning) and C++ (Gaming, USACO) curriculum to achieve long term goals
- Customized tutoring and instructional approaches by writing tailored lesson plans with 200+ unique projects
- Incorporated clients strengths and weaknesses into sessions, while maintaining a log of growth with 1000+ entries

## Selected Projects

### **Convolutional Layer Optimization with Triton** (Triton, PyTorch, CUDA, GPU Programming)

- Optimized the execution of 2D convolutional layers in neural networks with custom Triton kernels to accelerate GPU performance for image processing

### **Trader Joe's Pickup** (Figma, React, Next.js, Firebase, CRUD, Google Geocode API)

- An end-to-end web application that provides grocery pick-up services to Trader Joe's locations in the Bay Area

### **Image Filtering with CUDA** (CUDA, PyTorch, C++, NVIDIA GPU)

- A GPU-accelerated project that implements image filters (blur, sharpen) using CUDA for parallel processing, with PyTorch for image handling and performance comparison to CPU.

### **Sales Bot** (GPT-4, Pinecone, Python, FastAPI, React, Firebase, OAuth2, Faiss)

- LLM-powered sales chatbot using vector stores to enable sales representatives to make queries using natural language

## Technical Skills

**Languages:** Python (Pandas, Tensorflow, Pytorch), C++, C, Git, JS, Next.js, Rust, Go, RISC/x86 Assembly, SQL, Dart, Linux

**Developer Tools:** Azure, GCP, Flutter, CUDA, Triton, Firebase, Docker, Figma, React, OpenMP, Postman, Sendgrid, NVIDIA Nsight

## Awards

- Publication @Santa Clara University 2024 - "SuitUp: Addressing Employee Retention, Satisfaction, and Scaling"
- Publication @EAI Intetain 2020 - One of 10 posters selected to present "Fixing AI for Public Safety"
- WON: Most Interdisciplinary Award at Hack For Humanity 2021: *Devpost*: locals-n9r2u3
- WON: Fourth place at Bronco CTF (Capture The Flag) in Santa Clara, CA