

Ananya Pagadala

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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 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 by 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