

Ananya Pagadala

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

Education

Santa Clara University

Masters of **Computer Science and Engineering**

Sep 2024 - Dec 2025

- Research Focus: Tensor Core Optimization for Deep Learning Applications
- *Relevant Coursework: Computer Architecture, Deep Learning, Parallel Programming, Algorithms, Operating Systems*

Bachelors of **Computer Science**

Sep 2020 - Jun 2024

- Spanish Language and Mathematics minor
- Critical Thinking and Writing 1 & Critical Thinking and Writing 2 Teaching Assistant
- Research Focus: Symmetries in Graph Coloring Reconfiguration

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

- 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 (ML and Gaming) and C++ (Competitive Programming) 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

AI-powered Content Moderation System with AWS Bedrock (AWS Bedrock, Python, Lambda, SageMaker, DynamoDB)

- Built an AI content moderation system using AWS Bedrock for real-time text classification, integrated with Lambda and DynamoDB, achieving 95% accuracy and reducing manual moderation by 60%

InsightLab: Machine Learning Model Analysis (React, Node.js, Express, MongoDB, Python, Flask, Scikit-learn, Pandas, REST API)

- A full-stack web app to track, visualize, and optimize ML model performance metrics. Integrated CRUD functionality for users to manage model versions, parameters, and performance data, with automated insights for optimization

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

Matrix Inversion Acceleration (Triton, OpenCL, C++)

- Developed an optimized matrix inversion algorithm using Triton for GPU kernel generation and OpenCL for cross-platform parallel processing, reducing computational time by 50% for large-scale matrices (up to 5,000x5,000 elements)

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, SQL, Git, JavaScript, Node.js, Go, Rust, RISC/x86 Assembly

Developer Tools: AWS, Azure, GCP, Flutter, CUDA, Triton, Firebase, Docker, Figma, React, OpenMP, Hadoop, Postman

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