

# Yamini Karthik

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## EDUCATION

### San Jose State University

San Jose, California

B.S. in Computer Science

- o GPA: 3.88/4.00, [President's Scholar](#), Dean's Scholar
- o **Related Coursework:** Data Structures & Algorithms, Operating Systems, Object-Oriented Programming, Discrete Mathematics

## SKILLS

**Programming:** Java, Python, JavaScript, HTML/CSS, C, SQL

**Tools:** IntelliJ, VS Code, Eclipse, Jupyter Notebooks, Git, Microsoft Office Suite, Google Workspace, Bootstrap, Canva, Matplotlib, Pandas, SQLite, PyTorch, React, Figma

## EXPERIENCE

### Break Through Tech

AI/ML Fellow

May 2025 – Present

- Earned selection from 3,500+ applicants for a competitive 12-month AI fellowship featuring Machine Learning Foundations coursework with Cornell faculty, applied ML projects, experiential learning, Kaggle Women in Data Science Datathon participation, and industry mentorship [[Machine Learning Foundations Course](#)]

### Latitude AI

AI Studio Fellow

Aug 2025 – Dec 2025

- Contributed to a team of 6 in developing an end-to-end instance segmentation pipeline for autonomous driving; evaluated and benchmarked a Mask R-CNN instance segmentation pipeline trained on 100,000+ images from BDD100K and Cityscapes, demonstrating  $\leq 15\%$  performance gap compared to Segment Anything Model (SAM) on unseen driving data

### Cadence Design Systems

San Jose, California

Software Engineering Sprintern

Jul 2025 – Aug 2025

- Collaborated with a team of 4 to design and implement an HTML-to-PDF conversion workflow in Python, improving efficiency and scalability of technical document generation
- Optimized workflow to reduce production time by 80%, integrating automated PDF creation, table of contents, bookmarks, and internal link preservation; presented results to Cadence employees

## PROJECTS

### [Instance Segmentation for Autonomous Driving](#)

Team Member

Aug 2025 – Dec 2025

- Built and evaluated a production-ready instance segmentation pipeline using Mask R-CNN, trained on 100K+ images from BDD100K and Cityscapes, achieving strong generalization across diverse driving conditions
- Led model evaluation and performance analysis, visualizing segmentation quality and accuracy trade-offs, and compared Mask R-CNN against foundation model approaches (SAM+ text-conditioned detectors) to identify strengths, limitations, and deployment considerations for autonomous driving systems

### HTML-to-PDF Script

San Jose, California

Team Member

Jul 2025 – Aug 2025

- Designed a scalable document generation pipeline in Python using Playwright and PyMuPDF, enabling automated PDF creation from 100+ HTML files with cover page, table of contents, bookmarks, and preserved internal links
- Conducted performance testing and debugging to address memory limitations and navigation issues, resulting in a solution that streamlined technical publication workflows

## ACTIVITIES AND LEADERSHIP

### Responsible Computing Club

San Jose, California

Mozilla Workshop Ambassador/Mozilla Industry Ambassador

Sep 2024 – Dec 2024/Jul 2025-Present

- Organized professional speaker panels by engaging industry experts, and collaborated with leadership to plan 10+ workshops on emerging AI topics, including ethics and facial recognition