Akshat Sharma

Irvine, CA | 949-501-5233 | s.akshat@gmail.com | [LinkedIn](#) | https://akshatsharma.blog/

EDUCATION

University of California, Santa Cruz — Santa Cruz, CA
Bachelor of Science in Computer Science — *2x Dean's Highest Honors – Received June 2025*

University of California, Berkeley — Berkeley, CA
Masters of Information and Data Science — *Jan 2026 -*

EXPERIENCE

Software Engineer 1 — August 2025 – Present
Microchip Technologies — *San Jose, CA*
- Leading development of enterprise **RAG system with vector database** on **AWS Bedrock** deploying Claude/GPT-4 with **SSO authentication** and role-based access controls, integrating Git repositories, Confluence, and Jira APIs through automated ETL pipelines for semantic search across technical documentation while maintaining compliance with data governance policies
- Planned and implemented **C++ timing analysis framework** processing **45K+ timing maps** across 272 routing buffer types, designing scalable data structures and algorithms for FPGA delay characterization used by enterprise customers
- Built comprehensive **test infrastructure** and validation suite for timing tools, developing automated parsers and statistics tracking systems that process millions of data points across multiple process corners

Advanced Development Software Intern — June 2024 – December 2024
Microchip Technologies — *San Jose, CA*
- Engineered **graph algorithms** to dynamically decompose **1000+** hardware components into adaptive graph structures using **python** and **networkX**, improving **FPGA architecture** simulation accuracy for circuit design
- Designed automated unit test suite using pytest for **RTL automation** suite with unique **C++** bindings, supporting large-scale RTL automation across a **50,000+** line codebase and scaling test coverage from 35% to 91%
- Developed internal **Python automation tools** and **CLI utilities** to streamline ADev team workflows, reducing manual configuration tasks and improving engineer productivity

Machine Learning Intern — June 2022 – September 2022
Falkonry — *San Francisco, CA*
- Leveraged **python**'s **pandas** library to preprocess and manipulate large volumes of data, ensuring compatibility with Falkonry's **AI predictive model**
- Developed a comprehensive pipeline integrating **Kalman filters** and a **Random Forest Classifier** to estimate the remaining useful life of industrial equipment.
- **Automated** unsupervised **time series pattern learning** to detect anomalies causing downtime in physical operations, tested on high-speed data in a proprietary streaming platform.

PROJECTS

Tesphase | *REST API's, OAuth 2.0, Databases* Tesphase.co — June 2023 – Present
- Built **scalable prototype** integrating **Enphase and Tesla Fleet APIs**, implementing **Docker containerization** and **AWS deployment** to redirect surplus solar power to smart devices and EV charging, eliminating **$10K+ battery storage costs** and saving users **$300/month**
- Working with Solar installers including Altera Solar to build **scalable SaaS platform** using **FastAPI/PostgreSQL backend** and **React/TypeScript frontend**, featuring bulk customer onboarding and real-time analytics across residential solar systems
- Working with mentors including **Toby Corey (former CRO @ SolarCity)** and winner of 2025 Santa Cruz Launchpad competition, $5k in winning (Featured by UCSC Engineering) (Featured by SC Works)

Just In | *React, Node.js, Python, Machine Learning, Computer Vision* — Jan 2025 – Present
- Building secure campus marketplace with **React**, **Node.js**, and .edu verification, achieving 500+ beta signups for college student clothing marketplace
- Developing **AI recommendation engine** using **Python**, **TensorFlow**, and **scikit-learn** with collaborative filtering models
- Leading team of software intern's in a fast pace environment to develop platform, working closely with UI design team

TECHNICAL SKILLS

Languages: C, C++, Python, SQL (Postgres), JavaScript, HTML/CSS, Bash/Unix Shell, Verilog
Frameworks/Libraries: React, Node.js, Flask, TensorFlow, scikit-learn, OpenCV, NetworkX, Pandas, NumPy, Matplotlib
AI/ML Technologies Collaborative Filtering, Kalman Filters, Random Forest, Time Series Analysis, Gemini API
Developer Tools: AWS, Git, Jira, Confluence, Docker, Postman, pytest, VS Code, PyCharm, IntelliJ, Vim
Databases/APIs: PostgreSQL, REST APIs, OAuth 2.0, E*Trade API