Akshat Sharma

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EDUCATION

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

EXPERIENCE

Advanced Development Software Intern   June 2024 – December 2024
Microchip Technologies   *San Jose, CA*
- 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%
- 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
- 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
- Founded TesPhase, a **funded AI startup** optimizing solar energy utilization through smart device management;
- Built **Python 3.9** prototype prediction system that redirects surplus solar power to smart devices, eliminating **$10K+ battery storage costs** and saving homeowners **$300/month**
- Architected **secure data pipeline** between Enphase solar systems and Tesla vehicles using **REST APIs** and **OAuth 2.0**, processing real-time energy data for optimal power distribution
- Developing scalable platform with **Java** backend, **RESTful APIs**, and **AWS** deployment using **Agile** methodologies; targeting California's **$1B annual solar waste** market
- Secured backing from **Toby Corey (former CRO @ SolarCity)** and acceptance into Santa Cruz Accelerator Program (featured by UCSC Engineering)

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
- Engineering **computer vision chatbot** with fine-tuned **Gemini model**, **OpenCV**, and **Flask API** for outfit photo analysis and automated listing recommendations

Automated Options Trading Script | *Python, Flask, React, PostgreSQL, Docker*   June 2024 – Jan 2025
- Integrated **E*Trade API** for real-time options trading, developing and executing automated trading algorithms using Python.
- Monitored stock prices and options chains in real time, processing market data using **Pandas**.

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