SARTHAK SETHI

San Jose,CA · sarthakluv@gmail.com · (925)-895-0285 · Github · Linkedin · Portfolio Site

EDUCATION

San Jose State University   **Expected Graduation: May 2026**
Bachelor's of Science in Applied Math and Computer Science

Key Coursework: Machine Learning, Data Structures and Algorithms, Advanced Python, Linear Algebra, Probability and Statistics

WORK EXPERIENCE

Incoming Machine Learning Research Assistant   **Feb. 2025**
MICoSys Lab   *San Jose, CA*

- Machine Intelligence and Complex Systems Research - Spring 2025

Software Engineering Intern   **Jan. 2025 - Present**
Cequence Security   *Santa Clara, CA*

- Enhanced backend systems for Sentinel, Cequence Security's API security posture management platform, using Java to improve threat detection, compliance monitoring, and vulnerability mitigation processes.
- Conducted comprehensive API security testing, identifying and mitigating 15+ potential vulnerabilities, which reduced system downtime by 10% and enhanced overall data protection.
- Collaborated with cross-functional teams to implement scalable solutions for real-time API monitoring and risk assessment, improving the overall security framework.

Software Engineering Contractor   **Nov. 2024 - Present**
Nocturne - Clothing Brand   *Remote*

- Developing a scalable eCommerce app from scratch using Shopify Storefront API, React.js, GraphQL, Apollo Client, and Redux for dynamic product display, cart management, and checkout, with efficient state and data management.
- Optimizing performance and UX with custom CSS Grid, Flexbox, and Tailwind CSS for responsive design, SEO, and cross-browser compatibility, ensuring a smooth, mobile-friendly experience.

PROJECTS

Fitness Tracker with AI Pose Estimation | 2nd Place Winners At Silicon Hacks   GitHub Link

- Developed an AI-powered fitness tracker leveraging MediaPipe and CNNs to analyze joint angles, achieving 95% accuracy in detecting proper exercise form.
- Integrated OpenCV for real-time feedback and NumPy for efficient data processing.
- Automated workout repetition counting, providing real-time insights to improve exercise performance and form.

AI-Driven Mental Health Monitoring System *Python, Flask, Hume AI*   GitHub Link

- Engineered an AI-powered platform, Harmony Health, leveraging Python, Flask, and the Hume AI API to monitor emotional well-being by analyzing vocal tones and facial expressions.
- Integrated Flask for backend scalability and Hume AI for sentiment analysis, providing users with insights into emotional patterns and personalized wellness strategies.

Predictive Analytics Tool for Public Safety *Python, Pandas, Scikit-learn, Matplotlib*   GitHub Link

- Developed a machine learning system with Random Forest achieving 91% precision, analyzing 10,000+ U.S. gun violence incidents for predictive insights. Preprocessing involved data cleaning, feature engineering, and integration from multiple datasets using Pandas.
- Evaluated multiple models (Logistic Regression, Decision Tree, SVM, etc.) using precision-recall metrics, with Random Forest providing the most robust predictions.
- Fine-tuned BERT for semantic analysis of incident descriptions, enabling deeper contextual understanding of input data. Optimized GPU-based training using PyTorch, leveraging CUDA for accelerated computations and efficient model deployment, and applied quantization techniques to reduce model size by almost 15% while maintaining 91% accuracy.
- Visualized high-risk zones using Google Maps API and generated heatmaps for insights into mass shooting patterns

TECHNICAL SKILLS

Programming Languages:	Python, Java, SQL, HTML/CSS, Javascript
Machine Learning:	TensorFlow, PyTorch, Scikit-learn, XGBoost, LightGBM, LLMs (Bert, Llama, GPT)
Frameworks:	NumPy, Pandas, Keras, Matplotlib, Seaborn, OpenCV
Developer Tools:	Flask, Docker, Git,GitHub, AWS, Jupyter Notebooks, Excel, K8s, Tableau