Anita Jalili-Kalhori

Anita.jalili-kalhori.640@my.csun.edu | 818-235-9717 | github.com/babyziba | linkedin.com/in/anita777

EDUCATION

California State University, Northridge May 2026
Bachelor's of Science in Computer Science Dean's honor roll, GPA 3.9
Founder: CSUN's *Society of Software Engineer Club* (400+) members

EXPERIENCE

Cyber-Physical Power Systems Cyber-Security Intern Fall 2025
National Science Foundation

- Selected as funded research fellow for research at the intersection of AI, convex optimization, cybersecurity, and smart power systems**.**
- Conducting research prototypes leveraging machine learning and optimization aimed at improving grid reliability by 20–30% efficiency**.**

Drone Research & Development Intern Fall 2025
From Zero

- Designed and assembled a custom drone from scratch, integrating Raspberry Pi as the onboard processor and implementing Python-based control pipelines.
- Developed and tested drone capabilities for payload delivery, swarm coordination, and augmented reality visualization using Unity to extend a game engine into a real-world drone controller.

CNN Autonomous Driving Research Intern Summer 2025
SFS2

- Developed MLPs, CNNs, and PyTorch-based binary classifiers with data augmentation, dropout regularization, performance tracking, and Optuna tuning
- Implemented YOLOv8 transfer learning on a custom dataset and achieved 90% detection accuracy, enabling reliable obstacle classification in limited-data settings.

Programming and Robotics Instructor 2024-2025
Rolling Robots

- Taught 200+ students in VEX, Arduino, Python, CAD, and C++ and improved technical literacy across middle and high school cohorts.

PROJECTS

SONR Obstacle Detection for Vision Impaired *Python, ROS, YOLOv5, IoT*

- Developed prototype robotics platform (SONR) enabling real-time communication and obstacle detection for my senior capstone project
- Integrated YOLOv5 object detection pipeline with ROS for autonomous navigation and achieved 92% detection accuracy on campus test videos

Adversarial Attacks and Defense on CNN *Tensor Flow, Torchvision, NumPy, Matplotlib, Optuna*

- Investigated robustness of CNNs against advanced adversarial attacks (FGSM, PGD-10/40, EOT-PGD, Patch, Universal, Transfer) by designing experiments to evaluate model vulnerability under controlled perturbations.

MLB Pitcher Anomaly Detection *Python, PyTorch, pandas, scikit-learn*

- Trained a Temporal CNN autoencoder on Statcast data to flag abnormal velocity, spin, and release trends using EMA smoothing and robust z-scores.
- Delivered a reproducible CLI pipeline (train/score split by date, pitch-type one-hot, One-Cycle LR) that outputs CSVs and timeline plots for coach/scout review.