

Timmy Lin

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EDUCATION

- California State Polytechnic University, Pomona** Pomona, CA
Bachelor of Science in Computer Science Expected May 2025

PROJECTS

- Autonomous UAV Navigation in GPS-Denied Environments** Pomona, CA
California State Polytechnic University, Pomona Aug 2024 - Present
 - Gazebo Simulation + SLAM:** Developed VTOL-based UAV navigation simulations in Gazebo; integrated ORB-SLAM3 and RTAB-Map for real-time 3D mapping and trajectory visualization using RViz.
 - Object Detection with YOLOv11:** Built a real-time UAV human detection system using YOLOv11 to assist in rescue operations.
 - ROS 2 Middleware Integration:** Implemented ROS 2 Foxy for communication between SLAM, mapping, and perception modules.
 - Jetson Inference Optimization:** Accelerated deep learning and SLAM tasks using CUDA-enabled Jetson Nano/Xavier hardware.
 - 3D Mapping and Obstacle Avoidance:** Used OctoMap to build voxel-based occupancy grids for path planning in GPS-denied environments.
 - Academic Research:** Published research to ICUAS 2025 on real-time multi-UAV coordination for indoor search and rescue.
- ATS-Optimized Resume Analysis Tool** Personal Project
React.js, Tailwind CSS, FastAPI, spaCy, KeyBERT, PyPDF2, python-docx
 - ATS Resume Evaluation:** Built a resume scanner with NLP-based keyword matching against job descriptions. Extracted and scored skills, keywords, and formatting to generate ATS compatibility insights.
 - Real-time Full-stack App:** Developed frontend in React + Tailwind and backend in FastAPI with real-time analysis display and drag-and-drop uploads.
 - Keyword Extraction + Scoring:** Used spaCy, KeyBERT, and Sentence Transformers for named entity recognition and resume-job similarity scoring.
- Automated PR Review Bot** Personal Project
Python, GitHub Actions, OpenAI API
 - AI Code Reviewer:** Created a GitHub bot using OpenAI API to automatically review PRs for quality, style, and bugs.
 - DevOps + CI/CD:** Integrated GitHub Actions to automate real-time PR feedback on every push.
 - Security + Lint Checks:** Implemented static analysis for deprecated APIs, vulnerabilities, and non-compliant code.

PROGRAMMING SKILLS

Languages: Python, C++, Java, SQL, C#, Bash

Frameworks and Libraries: FastAPI, TensorFlow, PyTorch, OpenCV, YOLO, ORB-SLAM3, RTAB-Map, ROS 2 Foxy

Technologies: Docker, Git, GitHub Actions, REST APIs, OpenAI API, FastAPI, Cursor, LLM Integration, NVIDIA CUDA

Operating Systems: Linux (Ubuntu), Windows, MacOS

CERTIFICATIONS

Certified in NASA L'SPACE Mission Concept

Certified in L'SPACE NASA Proposal Writing and Evaluation Experience (NPWEE)

Certificate of Achievement from NASA Aerospace Scholars

AWS Certified Cloud Practitioner (CLF) - Validation Number VP7T43S2C4NE41Y3F

AWS Certified Developer - Associate (DVA) - Validation Number T4VL270191FQQLCH