Kyle Gossage

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Experience

Parallel and Distributed Systems Laboratory (PADSYS)   Sep 2025 – Current
Research Assistant   *Merced, CA*
- Improved smart farm operations by predicting sensor data through digital twin simulations
- Collaborating to develop a **modular** backend service architecture for a **distributed digital twin** system.
- Deployed and tested services on a **Slurm-managed HPC cluster** under distributed workloads.
- Built a **REST API** in **Rust** with **Axum** and **Tokio** to prototype endpoints and simulate user interactions

Mariposa Trails Mobile Guide Application   Aug 2025 – Dec 2025
Team Lead, Technical Lead, Fullstack Developer   *Merced, CA*
- Led a cross-functional team of 4 developers to deliver a **cross-platform iOS/Android** hiking guide
- Awarded the **F3 Innovate Award** and **Top Finisher** position at UC Merced's Innovate to Grow 2025 event
- Engineered a full offline-first architecture using **SQLite** ensuring reliability in remote, no-signal environments
- Developed an interactive trail navigation feature allowing users to input post numbers and view location-based content with text-to-speech playback
- Coordinated **fullstack** development workflow, **UI** design, **database** organization, and multimedia integration

UC Merced Residence Education   Aug 2023 – Dec 2025
Resident Assistant   *Merced, CA*
- Mentored and supported **350+** residents, fostering community engagement and academic success
- Organized **20+** educational and social programs connecting students to campus resources
- Mediated conflicts and enforced policies to cultivate a safe and inclusive environment

Technical Skills

Languages: C++, Python, JavaScript, Dart, Rust, Assembly (RISC-V, MIPS)
Software: Flutter, Flask, React, Vite, OpenCV, PyTorch, Roboflow, Tailwind, MySQL/SQLite, Git
Concepts: Web and Mobile Development, AI/ML, Databases, HPC, Computer Vision

Projects

Developer Portfolio | *https://kgossage11.github.io/Website/*
Human-Computer Interaction | *Computer Vision, Flask, PyTorch*
- Developed a **web application** that allows users to control actions using hand and voice commands on a whiteboard
- Trained a hand-tracking and gesture-recognition **computer vision model** supports rotation, resizing, and translation
- Integrated speech-to-text + **LLM** to generate images via natural voice commands

RapidReach-Hacktually | *GeminiAI API, Flask, Google Cloud Console*
- Developed a web application that optimizes response time of ambulances
- Implemented **AI-powered** data aggregation and analysis to display ideal ambulance stand-by locations

Computer Vision Model | *Python, Roboflow*
- Trained, and deployed a computer vision model using **roboflow** on a curated dataset of hundreds of Spot-It cards
- Model achieved **98 percent accuracy** when identifying the common symbol between two Spot-It cards

Education

University of California, Merced   Aug 2022 - Dec 2025
Bachelor of Science in Computer Science GPA: 3.74   *Merced, CA*
- **Relevant Coursework:** Software Engineering, Distributed Systems, Operating Systems, Computer Vision

Awards

F3 Innovate Award   Dec 2025
Mariposa Trails Digital Guide App
Salutatorian   May 2022
Terra Nova High School — GPA: 4.25
Eagle Scout - Scouts BSA   Aug 2021