Qizhe (Charles) Yang

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Collaborative, self-driven developer. Maintaining legacy systems. Building new solutions.

Experiences

GIS and Software Assistant, Intern **Summer 2025** *The Huntington*

- Developed walkhuntington.yangqizhe.com Web App with Python (Flask) and HTML/CSS. Features shortest path finder with A* Algorithm and the ability to find the most shaded path given computer vision pre-processed data from shademap.app. Deployed as Dynamic Web Project on PythonAnywhere; open-source code on GitHub.
- Developed a Python tool using the ArcGIS API to multi-threadedly scan all Huntington content and examine embedded links. Automatically generates a sorted .csv report.
- ArcGIS Web Map of all plants at The Huntington's Chinese Medicinal Garden and Story Map and Dashboard based on the Web Map.

Electric and Communication Systems Engineer **Fall 2024 – Current** *USC Formula SAE EV*

- Maintained and enhanced a GEVCU- and Teensy-based vehicle control system, integrating throttles, motor, Orion Battery Management System (BMS), GEVCU 7, and Teensy 4.1 via Arduino and C++ using analog signals and CAN Bus. Designed and implemented a vehicle dashboard interface to support driver monitoring and control.
- Debugged and refactored legacy code to ensure reliability and compatibility.
- Developed comprehensive test plans and validated system components, including motor, BMS, CAN Bus communication, and cooling controllers.

Education

University of Southern California **Fall 2023 – Current** *Los Angeles, CA*

- B.S. in Computer Science; Minor in 3-D Animation in Cinematic Arts. GPA: 3.64
- Undergraduate Courses: Computer Graphics, Computer Systems, Software Engineering, Algorithms and Theory of Computing, Linear Algebra, Calculus, Probability Theory
- USC Dornsife and Viterbi Dean's List; SOAR Scholarship

Additional Experiences

Projects

- **Personal Site** (Fall 2025). With Vite, React, and TypeScript, built and deployed personal website on GitHub with customized domain.
- **Latin-Chinese Translation** (Spring 2024 –). With Professors Dr. Lucas Herchenroeder and Dr. Stefani Rebeggiani, translated Classical Chinese Christianity written by Jesuit Martino Martini into English.
- **PFAS Research** (Fall 2024 –). With Professor Dr. Massoud Pirbazari, at SWAN Lab, conducted research on PFAS treatment methods and future directions.
- **Travel Planner** (Spring 2025). With classmates, led full stack Travel Planner Dynamic Web App featuring multi-thread and integration of real world APIs.
- **Bristled Wings Robotic Fly** (Fall 2025). With friends, designed the computer vision-based automatic control; designed the mechanical structure.

Technical Skills

- **Programming/Markup Languages:** C++, Python (incl. Machine Learning libraries, Data Science libraries), Java, C, Assembly, TypeScript, JavaScript, HTML, CSS, MD, Makefile
- **Frameworks & Tools:** React, Docker, Git/GitHub, ArcGIS Pro, LaTeX, Autodesk Maya, Final Cut Pro, Arduino, Teensy, Data Structures, Algorithms