Zichun (Jerry) Gao

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EDUCATION

Washington University in St. Louis
McKelvey School of Engineering — **St. Louis, MO**
Cumulative GPA (4.0 scale): 3.93 — *August 2023 ~ present*
2x Dean's List
Expected Graduation: May 2027

University of Maryland — **College Park, MD**
Summer School — *May ~ July 2024*

River Hill High School — **Clarksville, MD**
Cumulative Weighted GPA (5.0 scale): 4.90 — *September 2019 ~ May 2023*
11x Principal's Honor Roll
2x AP Scholar with Distinction

ACADEMIC & RESEARCH EXPERIENCES

Autonomous Algorithm Simulation — **Washington University in St. Louis**
Simulation Engineer — *March 2024 ~ present*
- Simulate and control the TurtleBot3 by Robotis e-Manual on Ubuntu to test autonomous navigation algorithms
- Utilize both ROS Noetic and ROS 2 Humble for virtual simulation and hardware integration and testing

Crime & Social Sentiment Analysis — **Online**
Researcher & Programmer — *January 2022 ~ February 2023*
- Extracted crime data from the Howard County Police Department website via Beautiful Soup
- Illustrated visual data through charts & graphs
- Displayed on a website via Flask deployed through Heroku for the audience to deduce trends

Data Labeling — **University of Maryland**
Labeler — *November ~ December 2022*
- Labeled data while guided by two PhD students for an underwater navigation project by running Python with Tkinter
- Manually selected optimal *x* & *y* coordinates (roll & pitch based on a scale of 1 ~ 7) to simulate an underwater bot

Redistricting & Gerrymandering — **Online**
Researcher — *June ~ November 2021*
- Reorganized & redrew the boundaries of Maryland's 8 congressional districts using Dave's Redistricting App
- Removed old district shapes & created new districts based on roughly equal population, racial, & ethnic distribution

EXTRACURRICULAR ACTIVITIES

WashU Robotics Club (WURC) Rover Project Team — **Washington University in St. Louis**
Software Lead Engineer — *September 2023 ~ present*
- Develop robot description and control packages in ROS 2 Humble along with several team members
- Utilize existing open-source software e.g. RViz & Gazebo to implement various tasks e.g. teleoperation & autonomous navigation

Future Leaders of McKelvey Engineering (FLOME) — **Washington University in St. Louis**
Member — *February 2024 ~ present*
- Bond with fellow members to create meaningful relationships and form a community of aspiring engineers
- Engage in service-based projects to give back to the local community

Maryland Technology Honor Society (MTHS) — **River Hill High School**
Member — *October 2021 ~ May 2023*
- Attended monthly dinner meetings featuring guest speakers on various topics of careers in STEM

American Computer Science League (ACSL) Intermediate 5 Division — **Online**
Teamed Competitive Programmer — *September 2021 ~ May 2022*
- Solved mathematical & algorithmic multiple-choice questions as well as programming problems using Python
- Competed individually on a team of eight for a total team score

United States of America Computing Olympiad (USACO) Bronze Division — **Online**
Individual Competitive Programmer — *August 2020 ~ April 2022*
- Solved mathematical & algorithmic programming problems using Python & C++
- Analyzed each problem, developed & refined an algorithm, & turned the algorithm into code

COMMUNITY SERVICE & ENGAGEMENT

Volunteens (NGO) — **Howard County, MD**
Chief of Technology — *June 2020 ~ June 2023*
- Collaborated with several other officers to serve the needs of the 200+ member organization

- Used WordPress to update website with new volunteer opportunities and service listings

SKILLS

- Languages: Mandarin (native & fluent), Spanish (conversational)
- Programming & Markup Languages: Python, Java, C++, MATLAB, LaTeX, HTML (novice), CSS (novice), JavaScript (novice)
- Softwares & Packages: Ubuntu, ROS2, Flask, Beautiful Soup, SQLite, Heroku, Tkinter, Handbrake, iMovie, Final Cut Pro