Zichun (Jerry) Gao

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EDUCATION

Washington University in St. Louis
McKelvey School of Engineering — **St. Louis, MO**
Bachelors of Science in Computer Engineering, Electrical Engineering — August 2023 ~ present
Minor in Mechanical Engineering
Cumulative GPA: 3.92 / 4.0
3x Dean's List
Expected Graduation: May 2027

Relevant Coursework: Engineering Design, Linear Algebra & Component Analysis, Probability & Statistics, Differential Equations, Electricity & Magnetism, Circuits, Vector Calculus & Dynamics of Physical Systems, Digital Logic & Computer Design, Data Structures & Algorithms, Systems Software, Statics & Mechanics of Materials

SKILLS

- General-Use Software: NI Multisim, Multisim Live, Cadence PSpice, Autodesk Inventor, Autodesk Fusion 360
- Programming & Markup Languages: Python, Java, C, C++, MATLAB, LaTeX, R
- Software Development: Ubuntu, ROS 2, Flask, Beautiful Soup, SQLite, Heroku, Tkinter
- Languages: Mandarin (native & fluent), Spanish (intermediate & conversational)

ENGINEERING EXPERIENCE

WashU Robotics Club (WURC) Rover Project Team — **St. Louis, MO**
Software Lead Engineer — *September 2023 ~ present*
- Develop robot description, control, & localization packages in ROS 2 Humble using Ubuntu 22.04 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) — **St. Louis, MO**
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

Robot Control & Navigation Research — **St. Louis, MO**
Undergraduate Research Assistant — *March ~ October 2024*
- Simulated TurtleBot3 by ROBOTIS on Ubuntu 20.04 to test navigation algorithms
- Controlled TurtleBot3 using keyboard teleoperation, arm Python scripts, and gripper GUI
- Utilized ROS Noetic for both virtual simulation and hardware integration

Crime & Social Sentiment Analysis — **Remote**
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 — **Remote**
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

American Computer Science League (ACSL) Intermediate 5 Division — **Remote**
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 — **Remote**
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

OTHER EXPERIENCE

Redistricting & Gerrymandering — **Remote**
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

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