Jerry Qiu

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Education

Georgia Institute of Technology *Aug 2020 – May 2024 (expected)*

- Candidate for a Bachelor of Science in Mechanical Engineering and Minor in Computing and Devices
- GPA 4.0/4.0 | Faculty Honors | Georgia Tech Lorraine Study Abroad Program
- *Relevant Coursework:*
  - *CS 2110: Computer Organization & Programming, CS 2200: Introduction to Computer Systems & Networks*
  - *ECE 3710: Circuits & Electronics, ECE 3741: Instruments & Electronics Lab, ME 6406: Machine Vision (in progress)*

Experience

Hardware Engineering Intern | *Microsoft* *May 2023 – Aug 2023*

- Explored thermal, power and performance statistics on production Nvidia A100 GPU servers running AI/ML/LLM workloads
- Pulled data from Azure databases using Kusto Query Language and performed data analysis on clusters running A100 blades
- Used Python and the pandas library to process and visualize large data sets, created graphics to communicate findings
- Validated learnings with Nvidia H100 GPU servers and provided recommendations based on analysis of production A100 servers

Automation Hardware Intern | *iRobot Corporation* *Jan 2023 – May 2023*

- Used Arduino and pneumatic control to build automated test fixture to de-risk dust accumulation on high voltage power board
- Designed fixture using Creo to enable automated sensor testing for robotic vacuum products on ABB robotic testing arms
- Successfully diagnosed internal tool connectivity issue related to embedded software and microcontroller timing
- Improved documentation for power compliance testing fixture by creating Bill of Materials, CAD, and assembly instructions

Reliability Engineering Intern | *Valero Energy Corporation* *May 2022 – Aug 2022*

- Designed pipe supports to improve pipe-to-pump alignment, increasing projected pump lifespan to 3+ years
- Modeled heat exchangers and vessels in COMPRESS to increase maximum allowable working pressure rating by 10%
- Improved and created pressure vessel torque sheets and calculated torque values for air-cooled exchanger plugs to revise refinery recommended practices in preparation for the 2023 refinery turn around
- Flagged pressure vessels for preventative maintenance using minimum thickness calculations and risk-based inspections

Undergraduate Research Assistant | *META Acoustic Lab* *Sep 2021 – Dec 2021*

- Explored the use of metamaterials to complement non-invasive brain imaging, stimulation, and surgery
- Designed and manufactured experimental design using Solidworks and metalworking tools like the waterjet
- Wrote MATLAB code to control instrumentation, gather and analyze data, and output results in user-friendly graphs

Projects

Roomba Soccer Robot | *iRobot Corporation* *Feb 2023 – Apr 2023*

- Collaborated in a team of 5 to build a remote-controlled, soccer-playing robot using the Create 3 platform and a Raspberry Pi 4
- Solved robot software and hardware reliability issues by diagnosing and implementing process/design changes
- Created phone mount that enabled live first-person view of robot activity and reviewed mechanical/electrical robot design

Mechatronics Robot Competition | *Georgia Institute of Technology* *Sep 2021 – Nov 2021*

- Worked in a team of 4 to design and fabricate a robot to complete competition tasks autonomously within a $100 budget
- Followed the product development cycle to test, identify, and correct weaknesses, achieving 90% drivetrain reliability
- Fabricated over 30 parts using a combination of 3D Printing, Laser Cutting, and hand/power tools
- Authored and presented technical reports to showcase design alternatives, selection process, and overall performance

Skills

Engineering: SOLIDWORKS, Creo Parametric, Fusion360, Windchill PLM, Excel, CircuitSim
Hardware: Arduino, Soldering, 3D Printing, Waterjet, Laser cutter, Electronics Repair, Fixture Development
Programming: MATLAB, Java, Assembly, C, C++, Python (in progress), Kusto
Languages: English (native), Mandarin (native), French (advanced, French Seal of Biliteracy, Grand Concours Medalist)

Leadership

Wreck Racing Secretary, Member *Aug 2020 - Present*

- Designing, validating, and fabricating instrumentation wiring and mounts for a race car constrained by a $2000 budget
- Managing logistics and coordinating work and club events for an organization of 60+ active members
- Developed a safety program with Caterpillar for university engineering competition teams to be adopted by the 6 other teams in the Student Competition Center