Adam Gaia

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Work Experience

Software Engineering Intern   November 2019 to present
Sarcos Robotics, Guardian XO Team
- Reduced CI run time from 40 minutes to 3 minutes by removing redundancy and parallelizing the build process
- Lead developer of an on-robot, service-queuing daemon. Created and containerized services using Docker
- Wrote/optimized/debugged c++ code for realtime robot operating system
- Automated robot bring-up, software update, and code compile processes

Scientific Computing Intern   August 2017 to November 2019
University of Utah Engineering Department, Uintah Project (PDE-solving simulation software)
- Parallelized a post-processing script, reducing run-time from 18 hours to 1 minute with 400+ GB input files
- Created Bash scripts to automate the queuing of remote simulations. Added automatic job error feedback
- Used Linux command line to run simulations on remote high-performance computing centers

Education

B.S. Computer Science - 3.2 GPA   April 2021
University of Utah - Salt Lake City, Utah

- Object-Oriented Programming
- Software Practice 1 and 2
- Algorithms and Data Structures
- Engineering Probability and Statistics
- Professional Communication for Engineers
- Scientific Computing
- Numerical Methods for Engineering Systems
- Computer Organization and Architecture
- Intro to Electrical Engineering
- Calculus 1, 2, and 3
- Linear Algebra and Differential Equations
- Advanced Programming for Comp. Design Problems

Computer Science and Engineering Projects

- **Parallel Laplace Solver:** *Final project for an extracurricular openMP, openACC, and MPI bootcamp*
  - Developed code remotely on a high-performance computing center
  - Used MPI to scale C code for 100 processors

- **Spreadsheet Application:** *Semester-long project to build an application from scratch in C#*
  - Used modular programming and MVC to combine individual components into a fully developed application
  - Used hash maps to keep track of cell dependencies to optimize formula calculation speed
  - Received an A on the project

- **Air-Powered Train Simulation:** *Numerical methods simulation of an air-powered train using MATLAB*
  - Created a program to solve for a train design to maximize speed without overshoting the destination
  - Worked as a team to abstract a physical model into a modular set of functions

- **Ping-Pong Ball Launcher:** *Project goal was to hit targets ranging between .5-1 meter away*
  - Microcontroller set firing velocity, launcher position, and launch angle
  - Processed an overhead image to find target location
  - 8th place in timed competition (out of 100)

Skills

- **Primary Languages:** C++, Python, Bash
- **Secondary Languages:** C, C#, Java
- **Tools:** Git, CI/CD, Docker, ssh, MPI, Linux command line, Arduino microcontrollers, LaTeX
- **Soft Skills:** Outgoing team player, time management, great oral and written communication skills