JACKSON ISENBERG

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EDUCATION

Georgia Institute of Technology Expected Graduation: May 2024
Bachelor of Science in Computer Science
Concentration in Systems & Architecture and Intelligence
Minor in Robotics and Mathematics
Coursework: Operating Systems, Data Structures & Algorithms, Processor Design, Machine Learning

SKILLS

Programming	Java, Python, C/C++, Rust, Verilog
CAD Programs	Fusion 360, AutoDesk Inventor, SolidWorks
Web Design	HTML, CSS, JavaScript, Web Hosting
Hardware	Arduino, Raspberry Pi, PCB Design, FPGAs, Waterjet, Mill, Lathe
Mathematics	Differential Equations, Linear Algebra, Graph Theory
Software	Operating Systems, Compilers, Computer Organization, Networking
Robotics	Control Theory, Motion Planning

EXPERIENCE

Student Research Assistant May 2021 – Present
CIPHER *Georgia Tech Research Institute*

- Designed and implemented the first real-time operating system in Rust for the Cortex R4
- Tested improvements between a model in Rust and C for a performant and secure operating system where nearly 100% of Rust's safety features at abstraction levels above the bootloader were utilized
- Worked on an FPGA analysis project in Rust that utilized the raft consensus algorithm for distributed systems (secret clearance)

Junior Research Assistant June – July 2020
Aerospace, Transportation & Advanced Systems Laboratory *Georgia Tech Research Institute*

- Worked and modeled a 5 degree-of-freedom Arduino-powered arm
- Developed a C++ library for the arm's inverse kinematics using the FABRIK algorithm
- Researched various OpenCV-extendable libraries such as AprilTags for detecting visual orientation of the end effector

Junior Research Assistant June – July 2019
Aerospace, Transportation & Advanced Systems Laboratory *Georgia Tech Research Institute*

- Researched piezoelectric materials and responsiveness of neoprene to heat
- Sole researcher of liquid treatment using UV-C LEDs for the Gates Foundation reinvented toilet which had an effective wavelength range of 250-300 nm
- Worked on a waveform generator for an AD9833 paired to an Arduino Mega

PROJECTS

FTCLib

- Founded and led the development of a Java library for FIRST Tech Challenge, used by hundreds of teams internationally to enhance their software efficiency and experience
- Led a team of 15 developers for active contribution and maintenance of the library

Grouch

- Created a scraping program in Python 3 that aids the registration process for Georgia Tech students by checking vacant spots and available waitlists as an alternative to the currently paid service that students use

EXTRACURRICULAR

HyTech Racing
Data Acquisition

- Designed schematics and fabricated PCBs to retrieve sensor data to be analyzed
- Programmed and tested Arduino/Teensy microcontrollers over a CAN line for messages containing sensor data to be parsed into a useful, readable format for debugging and testing

RoboJackets
IT Coordinator

- Managed the networks and distributed services provided to over 600 members
- Provided assistance to any members experiencing issues with their provided services or connections