

JACKSON ISENBERG

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EDUCATION

Georgia Institute of Technology

Bachelor of Science in Computer Science

Concentration in Systems & Architecture and Intelligence

Minor in Robotics

Expected Graduation: May 2024

EXPERIENCE

Undergraduate Research Assistant

Low-power, Adaptive, and Resilient Systems Lab

August 2022 – Present

Georgia Tech

- Worked with the Amazon AWS Deepracer stack to locally train and test an RL model for an autonomous vehicle
- Implemented fault injection into a Tensorflow graph with a custom resilience framework to validate theoretical responses to errors in the model

Student Research Assistant

CIPHER

May 2021 – Present

Georgia Tech Research Institute

- Designed and implemented the first real-time operating system in Rust for the Cortex R4 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)
- Developed BRAM self-tests for verifying the logic and correctness of PolarFire FPGAs

Junior Research Assistant

Aerospace, Transportation & Advanced Systems Laboratory

June – July 2020

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

Aerospace, Transportation & Advanced Systems Laboratory

June – July 2019

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

SKILLS

Programming

Java, Python, C/C++, Rust, Verilog

CAD Programs

Fusion 360, AutoDesk Inventor, SolidWorks

Hardware

Arduino, Raspberry Pi, PCB Design, FPGAs, Waterjet, Mill, Lathe

Software

Operating Systems, Compilers, Embedded, Networking, Distributed Systems

Robotics

Linear Controls, Motion Planning

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