JACKSON ISENBERG

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EDUCATION

Georgia Institute of Technology June 2020 – May 2024
Bachelor of Science in Computer Science
Concentration in Systems & Architecture and Intelligence
Minor in Robotics

EXPERIENCE

Undergraduate Research Assistant August 2022 – Present
Low-power, Adaptive, and Resilient Systems Lab *Georgia Tech*

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

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 where nearly 100% of Rust's safety features at abstraction levels above the bootloader were utilized
- Worked on various FPGA analysis projects dealing with a variety of problems related to architecture and bitstreams (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

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, Distributed Systems, Computer Vision, Machine Learning
Robotics	Linear Controls, Motion Planning

PROJECTS

Neuraphonic (Second Place Overall in HackGT X)
Developed a diagnostic assistant for Parkinson's disease utilizing a vision transformer and signal processing techniques to extract various features from audio samples uploaded to a website hosted on Google Cloud or through telephone.

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.

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