Kevin Koffroth

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EDUCATION

University of Georgia

Bachelor of Science in Computer Systems Engineering | GPA: 3.20 — December 2021

RELEVANT SKILLS

- Languages (in order of experience): C/C++, Python, C#, Verilog/VHDL, ARMv8 Assembly, JavaScript, LabView
- Software Frameworks: ROS (Robot Operating System), .NET, Kafka, RabbitMQ, OpenCV, TensorFlow
- Software Tools: Make/CMake, Docker, Git, GitHub Actions, Jenkins, JetBrains IDEs, Visual Studio/VS Code
- Electronics: foundational knowledge, prototyping, using Oscilloscope, AFG, Multimeter, Spectrum Analyzer, etc. Experience with Arduino/AVR, Raspberry Pi, NI PXIe Chassis', and STM32 embedded devices
- Other: Technical Communication, Microsoft Office Suite, LaTeX, Markdown, Linux, Windows 10

EXPERIENCE

Research Engineer I - Georgia Tech Research Institute — August 2022 – Present

- Working within TSB (Test Systems Branch)/TEN (Test Engineering Division)/ELSYS (Electronic Systems Laboratory) designing, implementing, and testing software and firmware to be used on the APR-39 ISS (Integration Support Station) and the Scalable Many-on-many Advanced Reprogrammable Threat Simulator (SMARTS) project.

Affiliate-Bp/Contractor - Georgia Tech Research Institute through Insight Global — January 2022 – July 2022

- Worked within TSB/TEN/ELSYS designing, implementing, and testing software to be used on the APR-39 ISS.

Electronics Engineer Intern - Air Force Material Command — June 2021 – August 2021

- Worked in the 579th Software Engineering Squadron developing Test Program Sets (TPS) for the Joint Service Electronic Combat Systems Tester. Overhauled the menu system for the F-16 AN/ALR-69 TPS while learning the basics of Radio Frequency/Electronic Warfare engineering, and using the MIL-STD-1553 protocol.

Student Grader/Teaching Assistant – UGA College of Engineering — November 2020 – December 2021

- Assisted in designing, teaching, and administering the ECSE 2920 (Design Methodology) Spring 2021 course. Duties included designing/verifying requirements, and writing documentation/instructions for the class project, building a `golden model` of the project, assisting students, and grading. Continued working as a student grader to assist in designing and administering the CSEE 4290 (Computer Architecture) Fall 2021 course. Duties included testing software/tools to be used in the course, designing the class project, and grading lab reports.

CURO Researcher – Biosensing and Instrumentation Lab — January 2020 – June 2020

- Designed a browser-based 3D simulation environment, capable of telemetry and rudimentary control of a robot, using ROS and its accompanying JavaScript libraries.

PROJECTS

Autonomous Multirotor Battery Swap Project – UGA Robotics Club — September 2020 – December 2021

- Lead a team of UGA Engineering students across multiple disciplines to create a fully autonomous battery swapping system for multirotors. The project employed PX4 Autopilot software, QGroundControl, ROS2, and OpenCV to create a landing system capable of placing the multirotor on a platform within a tolerance of 5" or 13 cm in each direction. Project is ongoing.

2020 Robotics Competition – American Society of Agricultural and Biological Engineers — December 2019 – July 2020

- Vision Team Lead in developing a robot to perform a simulated agricultural task to compete internationally. Led team to design and implement a camera sensing system to determine the health and germination status of mock corn stalks on a simulated field. The team's competition whitepaper placed *2nd overall* in the paper writing category.

UGA Hacks 5 – Hackathon — February 2020

- Collaborated with a team to design a VR system capable of interfacing with a robotic arm to showcase a more intuitive way of teleoperating similar systems in the field. Placed *1st overall*.

2020 Bayer Alka-Rocket Challenge – Student Aerospace Initiative (SAI) — January 2019 – January 2020

- Team member for SAI's submission to the 2020 Bayer Alka-Rocket Challenge. Developed a parachute deployment mechanism using an Arduino Nano (C++), Accelerometer, and PWM servo. Our team was *1 of 5 selected as finalists* to compete in Orlando, Florida.