Joseph Hirschfeld
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University of Cincinnati Graduating May 2019
Computer Science — Senior

Experience

Embedded Software Engineering Co-op, Xetron Corporation — Northrop Grumman Corporation, Cincinnati Ohio
January 2018 — May 2018

- Quickly learned embedded development on short notice without assistance
- Owned software design of a hardware component based on an ARM processor
- Designed sections of electrical circuitry and assisted in design approvals
- Designed low level I/O frameworks and drivers for communicating with complex peripherals

Software Engineering Co-op, Rockwell Automation, Mayfield Heights Ohio
May — December 2016, May 2017 — August 2017

- Developed new features as well as fixed issues in large C++ code base
- Collaborated with a large feature team, working in both testing and development
- Performed system administration for a 15+ server (60 VM) virtualized Windows/Linux hybrid environment

Part Time Software Engineer, Cincinnati Children's Hospital Medical Center, CAGE Department, Cincinnati Ohio
January 2017 — May 2017

- Independently developed a C++ based genetic tool which replaced a Perl script resulting in 4 times faster execution time and $\frac{1}{10}^{th}$ the memory footprint
- Assisted with development of a large-scale Java genetic database program
- Created high performance network driver code for use with genetic database

Free Time Achievements

- Created a 'homelab' within my house that utilizes technologies such as software defined networking, virtualization, LDAP and domain name services
- Created and maintain 'NuVotifier', a DoS safe variant of popular Minecraft server 'plugin' that hosts raw TCP sockets and utilizes cryptography
- Created and maintain 'MCAuthenticator', the first free and open source TOTP (2fa) 'plugin' for Minecraft servers
- Identified and responsibly disclosed a DoS and UDP Reflection attack in 'Bungeecord', a popular Minecraft server proxy

Activities

Vice President of the UC Robotics Team (IGVC)
2016 — 2018

- Lead efforts to increase usage of version control, unit testing, and documentation throughout the project through an intuitive contribution process
- Lead navigation and driver development of the robot
- Educated other members on topics concerning all facets of the robot