Joshua Cepeda

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Education

Bachelor of Science in Computer Engineering, University of Notre Dame   2018 - 2022
- 3.6/4.0 GPA
- Trustey Family Merit Scholar

Key Skills

- Embedded C programming
- Reverse engineering (IDA Pro)
- Version control (Git)
- Continuous integration (GitLab CI, GitHub Actions)
- UEFI firmware development (EDK2, UEFITool)
- BMC software tools (IPMI, Redfish, OpenBMC)
- Embedded cryptography
- Shell scripting and automation
- Python programming
- Embedded communications (I^2C, SPI)

Work Experience

Software Engineer, Private Machines Inc./Virtalica Inc.   2021 - Present
- Led development on custom UEFI BIOS using EDK2 and non-EDK2 firmware modules
- Designed and implemented BIOS firmware integrity and verification check
- Maintained NGINX-based networking application in C

Teaching Assistant, Notre Dame Department of Computer Science and Engineering   2021 - 2022
- Courses: Systems Programming, Operating Systems
- Tutored fellow students core concepts of Unix systems programming and operating systems principles
- Assisted with debugging and grading students' Python, shell script, and C programs

Research Assistant, Center for Research Computing   2019 - 2021
- Collaborated with students from other universities to write a System-On-Chip benchmarking suite in shell script
- Built custom Linux build environment with Yocto targeting Enclustra System-On-Chip board

Computing Assistant, Notre Dame Department of Engineering Science Computing   2019 - 2021
- Wrote PowerShell and shell scripts to automate installation and maintenance of Windows computer clusters
- Performed routine maintenance and updates on school Windows and Linux computer clusters

Activities

Notre Dame Hesburgh Hackathon   2021
- Worked over 48 hours to prototype an Android mobile app in Flutter
- Interfaced with web APIs to present geoloation-based birdwatching challenges
- Won first place in competition

Personal/Hobbies

- Training in classical piano
- Game development with Godot, Unity, and PICO-8
- Running and playing tabletop role-playing games