BERNIE CONRAD

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WORK EXPERIENCE

Allthenticate
March 2020 - Present

Lead Software Engineer

- Ran the company's core software team, developed the passwordless desktop software and keyless smart door firmware implemented in Python, and a team focused on integrating the FIDO standard into our single-device authentication protocol.
- Integrated our desktop solution with Windows Credential Management and Pluggable Authentication Modules on Linux and macOS in Rust and C++ for seamless passwordless logins for desktop users.
- Created a new BLE communication model which enabled multiple users to securely interact with their computers and doors, significantly reducing their latency and improving reliability.
- Implemented remote logging, over-the-air commands, and automated schedules and health checks using WebSockets, MySQL, and MongoDB for monitoring and managing physical access control.
- Found and fixed CVE 2021-43400, a use after free of a function pointer in the Linux Bluetooth Stack during the development of ABle.
- Designed and implemented CI/CD pipelines on Gitlab for multiple projects with unit and integration tests, packaging with Codesigning, validation with Docker and Virtual Machines, and deployment.
- Managed relationships with strategic partners to improve our developer experience and reduce friction with our development and distribution processes.

Tanner Robotics
Summer 2019

Robotics Engineering Intern

- Played a pivotal role in the software and hardware development of phase II of a DOA contract (SBIR 2018-33610-28229) for an autonomous pallet stacking robot.
- Created a vision pipeline using Tensorflow and TensorRT on the Nvidia Jetson platform and optimized the robot's control software to be 34% faster using threads in C.

SafeInHome
2017 - 2019

Software Engineering Intern

EDUCATION

University of California, Santa Barbara
2019 - 2022

Bachelor of Science Computer Science

Distinction in the major ● College of Engineering Honors ● Coursework in operating systems, deep and machine learning, embedded systems, networking, algorithms, data structures, and technology management and strategy ● Varsity Mens Rowing

PROJECTS

Allthenticate Bluetooth Low Energy (ABle)
⚲ pypi.org/project/able

Implemented a high-performance asynchronous platform agnostic BLE Python Framework used in Allthenticate's core software stack, providing a simple yet powerful Berkeley Socket API abstraction around BLE communication across Windows, macOS, and Linux.

DrDocx
⚲ devpost.com/software/drdocx-0ktzl5

Created the AWS infrastructure and visualization tools in Python for an application that streamlined medical professionals' workflows to save them up to several hours a day through automation and data insight during SBHacks VI.

CERTIFICATES

AWS Cloud Practitioner
April 2021