BRIAN MAK

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EDUCATION

COMPUTER SCIENCE, B.S., TECHNOLOGY AND INFORMATION MANAGEMENT MINOR

UNIVERSITY OF CALIFORNIA, SANTA CRUZ – EXPECTED GRADUATION DATE: MAR 2024

- GPA: 3.96, 8x Dean's Honors List – Fall 2020 to Winter 2023
- Relevant Courses: Principles of Computer Systems Design, Computer Security, Introduction to Analysis of Algorithms, Computer Architecture, Introduction to Data Structures and Algorithms, Advanced Programming, Computer Systems and C Programming, Computer Systems and Assembly Language

PROGRAMMING LANGUAGES AND FRAMEWORKS/LIBRARIES

- C/C++ - Proficient
- C#/.NET - Familiar
- Java - Familiar
- Lua - Proficient
- Rust - Familiar
- JavaScript/React - Familiar

WORK EXPERIENCE, PROJECTS, AND AWARDS

SOFTWARE ENGINEERING INTERN, KERNEL

JUNIPER NETWORKS, JUN 2023 – SEP 2023

- Optimized core dump capture kernel memory usage on Juniper products.
- Created a modular and automated kernel memory core dump analyzer with several built-in analyses, allowing for engineers to troubleshoot customer issues related to kernel crashes faster, resulting in reduced issue resolution times.
- Placed 1st place in a company CTF challenge covering cryptography and web exploitation.

EMBEDDED CAPTURE THE FLAG COMPETITION

JAN 2023 – APR 2023

- Participated on a team for a cybersecurity CTF competition to design and implement a secure key fob system for a car door lock using Rust, and attack opposing teams' designs.
- Designed and implemented 4+ modules to support the operation of the key fob and car firmware, including the EEPROM, random number generation, GPIO button, and timer modules.
- Designed and implemented the secure car unlocking and key fob pairing transactions.

SOFTWARE ENGINEERING INTERN, PLATFORMS (TIMING)

JUNIPER NETWORKS, JUN 2022 – SEP 2022

- Designed and implemented a history library to track IEEE 1588 Precision Time Protocol state changes, allowing engineers and testers to troubleshoot errors and debug code more efficiently.
- Implemented software debug features for an FPGA implementing IEEE 1588 Precision Time Protocol clocks, allowing engineers and testers to effectively debug packets discarded by the FPGA.
- Placed 2nd place in a company CTF challenge covering reverse engineering and web exploitation.

NSA CODEBREAKER CHALLENGE: 2021 HIGH PERFORMER, 2022 SOLVER, 2023 SOLVER

JAN 2022, AUG 2022, SEP – OCT 2023

- Completed 7 tasks in 2021, 9 tasks in 2022, and 9 tasks in 2023 covering network forensics, database forensics, log analysis, email analysis, PowerShell, registry analysis, Docker analysis, reverse engineering, binary exploitation, cryptanalysis, web hacking, and protocol analysis.

GROUP TUTOR – COMPUTER SYSTEMS, C PROGRAMMING, AND ASSEMBLY LANGUAGE

UNIVERSITY OF CALIFORNIA, SANTA CRUZ, MAR 2021 – JUN 2022

- Tutored over 150 students on programming assignments covering C programming with data structures, sorting algorithms, Huffman coding, and RSA key generation, encryption, and decryption.
- Tutored over 175 students on assignments covering Git, logic circuits, and MIPS and RISC-V assembly.