Cameron Oakley

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RESEARCH INTERESTS

EDUCATION

California State University, Monterey Bay, Seaside, CA 93955
B.S. Computer Science, Networks and Security concentration

- GPA: 4.0, Expected completion: May 2024
  - Dean's List Nomination: Fall 2022 - Spring 2023
- Courses: Algorithms, Computer Networking, Data Science, Internet Programming, Software Design, Software Engineering

Hartnell College, Salinas, CA 93901
AD-T: Computer Science for Transfer (Fall 2022)

- Cumulative GPA: 3.9, Transferred out Fall 2022
  - Dean's List Nomination: Fall 2019 - Spring 2022
- Completed Courses: Calculus I & II, Computer Architecture & Assembly Language, Data Structures, Discrete Mathematics

RESEARCH EXPERIENCE

Mobile Adhoc Networks Security Research Winter 2022 - Present

- Description: This research project is designed to simulate graduate-level research. My role is examining the infrastructure of Mobile Adhoc Networks (MANETs) and their vulnerabilities. The focus of my research is on network layer attacks, including Blackhole, Jellyfish, and Denial of Service.
- Relevant skills: For this project, I utilize the Mininet, a Ubuntu-based network simulator. Python3 scripts are used to create network topologies.

CLUBS & LEADERSHIP EXPERIENCE

Network and Security Team (Club) Fall 2022 - Present; Vice President

- Description: Collaborate with a five-person team to draft and present funding proposals, coordinate club events, and design educational workshops for club members.
- Participated in team and individual-based Hackathon events, including ForAllSecure Mayhem Heores, National Cyber League, UMASS, and Hack the Box.

Mathematics Engineering Science Achievement (Club) Fall 2021 - Spring 2022

MEMBERSHIPS & AFFILIATIONS

California State University, Monterey Bay, Seaside, CA 93955

- Louis Stokes Alliance for Minority Participation (LSAMP) Rising Researchers
- Undergraduate Research Opportunities Center (UROC)

PROFESSIONAL EXPERIENCE

Senior Departmental Information Systems Coordinator
Monterey County Sheriff's Office, June 2021 - Present

- Resolved over 2000 tickets in Service Now. Most tickets are low-level tasks, such as computer moves, configuring IP phones, replacing Lithium batteries in IDF rooms, patching switch ports, etc.
- Become proficient in troubleshooting Office 365 applications and Windows specific-issues. This involves identifying the root causes of error codes and determining an effective solution.
- Occasionally, certain tickets require me to work with vendors. In such cases, I have collaborated with the UCC team to troubleshoot issues with MCSO's Zoom rooms and users' Office 365 accounts. Additionally, I have worked with outside vendors to customize their applications to meet MCSO's requirements.

    - In a project I'm currently working on, I am collaborating with Kronos, an outside vendor, to allow traffic from Monterey County's range of external IPs. Additionally, I am working with County ITD networking to white-list Kronos domains.
- Utilized my computer architecture skills to identify performance bottlenecks in PC components. This was to address issues with workstations having excessively long load times when opening forensic smartphone extractions and other programs.
- Worked with my supervisor on a project for imaging and distributing over 100 iPhones to Deputies and command staff.
    - My responsibilities included imaging the iPhone via Apple Configurator 2, enrolling the device in Apple Business Manager and Miradore MDM, and using the MDM to push apps and configuration profiles.
- Lead for imaging, distributing, and managing iPhones for inmate attorney visits. This consists of restricting access on phones which is accomplished through MDM configuration profiles.

Student Intern
Monterey County Sheriff's Office, June 2020 - November 2021
- Mentored three new Senior DISCs, providing them with exposure to daily troubleshooting and involvement in my projects.
- Contributed to deploying laptops for remote use, which gave me experience working with and troubleshooting Global Protect VPN connections.

Documentation Branch Leader
Monterey County Office of Emergency Services, April 2019 - June 2020
- Description: During the Coronavirus pandemic, I volunteered to work in the Office of Emergency Services. My responsibilities included contacting government agencies and county department heads to obtain and update their agency's contact information.
    - This experience provided me with the opportunity to work in a fast-paced environment as the pandemic was rapidly evolving.

Temporary Employee
Monterey County Sheriff's Office, October 2019 - June 2020
- Description:
- Relevant skills:

CONTINUING EDUCATION

UCSC ForAllSecure Hack-a-thon Spring 2023
- Description: During the Hackathon, I explored how to integrate fuzzing tools such as Mayhem with open-source repositories on GitHub.
- Relevant skills: I worked with Docker files and containers to run the fuzzing software.

National Cyber League Hack-a-thon Fall 2022, Spring 2023
- Description: During this Hackathon, I participated in two events: an individual game and a team game. In both events, I focused on tasks related to password cracking, port scanning, and log analysis. These challenges exposed me to various tools, including HashCat and Ophcrack, as well as commands like grep and awk.
- Relevant skills: I found scanning challenges particularly interesting as they required the use of tools like NMAP and Netstat to identify open TCP and UDP ports on a server. This experience strengthened my knowledge of port numbers and DoS attacks learned in my courses.
- In the 2022 individual game, I broke within the 75th percentile despite having only one week to prepare. You can view my results using the following link: bit.ly/3ndmjXo. In the 2022 team game, I was part of a seven-person team, and we placed in the 97th percentile together. Our team score can be viewed using the following link: bit.ly/3TDjv1F.

Cyberseed Hack-a-thon February 2023
- Description: During the Hackathon, I worked with my partner and tackled reverse engineering problems for exploitable Python, C, and binary code.
- Relevant skills: Gained experience using tools such as GDB and Ghidra to analyze binary code and also learned to identify and exploit stack and buffer overflows in C programs.
- Participated in the 2023 team game and ranked 63rd out of 192 teams. You can view our results at bit.ly/3LJG2YH.

PROJECTS

Max Heap Data Structure, May 2023
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Earthquake Data, Web Interface, March 2023

- Using Node.js I developed an Express app using the Model View Controller (MVC) design pattern. This app could handle multiple routes and receive parameters from various HTML form elements.
- The controller queried an external Earthquake API and information was then passed to the browser. In this project, I used the Embedded JavaScript (EJS) templating engine for processing views, Node-Fetch package to query an API, and packages for log messages and HTTP Errors. To format the page I used Bootstrap and other CSS properties. Link to output on Replit, https://replit.com/join/qedhjdywmv-coakley-csumb

Gradebook Application, Full-Stack Development, January 2023 - May 2023 - *source code available upon request*

- Using MySQL, I designed a relational database that includes entities for courses, enrollments, and assignments.
- Using the SpringBoot server framework, I developed a back-end RESTful API that uses Java CRUD repositories to manage database records and accepts multiple routes. I used RabbitMQ for service-to-service communications and JUnit, PostMan, and Selenium for testing.
- I used Node.js and React to create a front-end web app that queries the backend and displays the results using HTML, CSS, and JS.

Book Reservation System, November 2022 - December 2022

- Using Android Studio and Java, I developed an Android app that simulates a library's book reservation app. I implemented a SQL database to store and retrieve book information and availability.
- I implemented a Singleton design pattern to create a single instance of an SQLite Room database.
- For the user interface, I implemented the Model-View-Controller (MVC) design pattern, which allowed users to interact with the app and database seamlessly.

Predicting Damage Extent from Car Crash Data, November 2022 - December 2022

- Utilized various machine learning algorithms, I developed a Python notebook that analyzes car crash data and predicts the extent of the damage. The project relied on popular Python3 libraries such as NumPy, Pandas, and Scikit-Learn. I fine-tuned the hyperparameters of a K-Nearest Neighbor (KNN) classifier and KNN classification tree to achieve the best possible predictions.

Discord Youtube Bot, July 2022

- Created a Discord bot using Python3 and Youtube APIs, I am building a Discord bot that can join voice channels and play requested songs. If interested, you can view the source code of the bot through this link: http://bit.ly/3FTO8ud.

Home Ethernet Wiring, May 2022

- As part of a networking project, I successfully routed Ethernet cables over 40 feet through the ceiling and walls of my home. I then used a punch-down tool to create ethernet wall ports.

Building Computer, May 2020

- I researched computer components and built my computer from scratch. From this, I've become comfortable assembling and disassembling computers. I also enjoy helping friends build their PCs or determine what components to get for their needs

ADDITIONAL SKILLS & TOOLS

Programming Skills. . .
Programming Languages: C, C++, Java, Python3, JavaScript
Skills: Algorithm Design, Data Science, Internet Programming, Multithreading, Socket Programming, Frontend & Backend Development
Applications: Git/Github, VMware (Ubuntu, Kali), WSL, Docker Containers, PuTTY, Android Studio, Spyder and Google Colab, Java Spring, Node.js, MySQL
APIs: Discord API, Youtube API, various external APIs, creating internal APIs

Professional Skills. . .
Professional Skills: Customer Service, Documentation, Research, Time Management
Operating Systems: Windows 10/11, Linux Server (Ubuntu), Kali Linux, Windows Subsystem for Linux (WSL), and iOS
Tools: SysPrep, Elementor, Beaver Builder, Apple Configurator 2
Applications: Active Directory, Adobe suite, Apple Business Manager, Google Earth/Maps, Miradore (MDM), WordPress, Microsoft Office Suite