

# DAVID "CARTER" BRAINERD

OxCB@protonmail.com | (202) 262-0846 | Washington, D.C. | <https://carterbrainerd.me>

---

## WORK EXPERIENCE

### SpaceX

Security Engineer

July 2023 - Present

Washington, D.C.

- Spearheaded the refactoring, enhancement, and continuous maintenance of SpaceID, SpaceX's mission-critical in-house authentication service, optimizing its performance and security features; implemented FIDO2 via Yubikeys and FaceID for cutting-edge user authentication capabilities
- Orchestrated the end-to-end process of architecting, designing, and developing a tool aimed at consolidating user permissions across diverse external services within the company; introduced automated reporting functionality, streamlining communication by delivering concise reports to the respective managers and the Compliance team
- Performed triage duties, helping other engineers with security issues and software reviews

### MORSE Corp.

Python Software Engineer

Jan. 2022 - June 2022

Cambridge, MA

- Developed and built the backend stack of a feedback form for Air Force members on AWS via Terraform
- Created a library that implemented custom authentication methods using CAC Identification Cards
- Ran biweekly assessment of infrastructure for a project delivering accurate weather data to military personnel dropping payloads out of airplanes

### Poloniex

Security Engineer Co-Op (Jan. - June 2021) | Wallets Engineer (July 2021 - Dec. 2021)

Jan. 2021 - Dec. 2021

Boston, MA (remote)

- Created Python tools to review permissions for OneLogin, Cloudflare, and 1Password using their APIs, migrated the Cold Storage Custody API from Flask to AWS Lambdas, and developed AWS Lambdas for multiple projects using CloudFormation templates
- Conducted co-op and full-time technical interviews for potential hires

### HackerOne

Bug Bounty Hunter

2017-2021

- Discovered and responsibly disclosed security vulnerabilities to companies like Uber, Snapchat, Sony, and Udemy

## TECHNICAL KNOWLEDGE

- **Languages:** Python, Go, Java, Ruby, Bash, SQL, Crystal, HTML/CSS, Solidity, C, x86 ASM
- **Software:** Git, Jira, Docker, SQL Databases, Linux, AWS (Lambda, CloudFormation, RDS, more), Terraform, Ghidra
- **Concepts:** Googling, Software Development Lifecycle, Applied Cryptography, Cybersecurity Best Practices, Computer Networking Protocols, Malware Reverse Engineering, Software Supply Chain Best Practices

## ADDITIONAL PROJECTS

### Maliketh Python, C++, Go

Jan. 2023 - Present

- Designed and developed a multi-operator, malleable C2 framework utilizing Python, Postgres, and RabbitMQ for the server and C++ and Go for the implant.
- Enabled multiple users to issue commands to implants and receive results via RabbitMQ
- Implemented security measures such as authenticated encryption and tunneling to protect communication and data integrity

### Metasploit Framework Ruby - <https://git.io/JUkVk>

Dec. 2016 - Present

- Developed numerous remote and local exploits for Windows, MacOS, and Linux IOT devices
- Notable modules: Windows Silentcleanup UAC Bypass, Netgear R7000 Router Unauthenticated RCE, Microsoft Excel .SLK Command Execution

## EDUCATION

### Northeastern University

Khoury College of Computer Sciences

Bachelor of Science degree in Computer Science

Sept 2019 - May 2023

Boston, MA