

# Neil Walter

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## EDUCATION

### Bachelor of Science in Computer Science

AUGUST 2024

University of Maryland, Global Campus GPA: 3.23

**Relevant Coursework:** Advanced Data Structures, Design and Analysis of Computer Algorithms, Artificial Intelligence, Computer Systems Architecture, Front-end/back-end web development, Git, Game Programming, Organization of Programming Languages, Introduction to Computer Systems

### Associate of Arts in Computer Science

JUNE 2022

Montgomery College, Rockville, Maryland

## TECHNICAL SKILLS

**Programming languages:** JavaScript, Go, Python, Java, C, C++

**Frameworks:** ExpressJS, NextJS, React, Puppeteer (*web automation*), Appium (*mobile automation*)

## WORK EXPERIENCE

### Offensive Security Engineer

JAN 2025-PRESENT

#### TikTok - (*ByteDance*)

- Perform red team operations targeting mobile, web, and internal infrastructure to assess detection and prevention capabilities.
- Reverse-engineer apps and SDKs to identify weaknesses in **anti-bot**, **captcha**, and **device fingerprinting** mechanisms.
- Develop and deploy custom automation tooling using **Appium**, **Frida**, and **MITM Proxy** to simulate attacker behavior on iOS and Android.
- Collaborate with detection engineers to improve internal tooling and harden defenses.

### Self-Employed

APRIL 2020-PRESENT

#### Freelance Software Developer

- Develop and maintain software solutions for clients, with a focus on mobile and web applications.
- I specialize in reverse engineering web APIs and SDKs for various platforms and have worked with Tinder and Arkose.
- Experience in building and managing SaaS projects, including infrastructure setup, API development, and user interface design.
- Expertise in integrating barcode systems such as 1D, PDF417, and QR into software solutions.

## TECHNICAL PROJECTS

### Reverse Engineering Web APIs and SDKs

- Reverse-engineered the Tinder web API and SDK, understanding its request/response flow and uncovering undocumented API features.
- Reversed Arkose Labs SDK, focusing on their browser fingerprinting techniques to understand and replicate their security mechanisms.
- Automated process flow and learned advanced reverse engineering techniques, including decompiling apps to uncover hidden APIs and identify weaker endpoints for potential optimizations.

## LEADERSHIP AND DEVELOPMENT

### Eagle Scout: BSA Scout Troop 264

2016-2020

- Led and completed an Eagle Scout project building a bench and a landscaped area at a local church, coordinating resources, volunteers, and project execution.