

# Ayoub Mohamed

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[GitHub](#) | [LinkedIn](#) | [Portfolio](#)

## Education

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**Carter G. Woodson High School — Fairfax, VA**

Advanced High School Diploma

GPA: 4.00

Graduated: June 2025

Awards: Honor Graduate

**George Mason University — Fairfax, VA**

Bachelor of Science in Information Technology

Expected Graduation: May 2029

## Skills

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**Programming Languages:** (Proficient): Python, Go, Java (Experienced) C++, JavaScript, HTML, CSS (Familiar) C, C#, Kotlin

**Tools & Frameworks:** Boost.Asio, Flask, Node.js, Unity, Git, VS Code, Linux, Windows

## Work Experience

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- **Peer Programming Tutor** *Woodson CSHS* September 2022 – June 2025
  - Provided 1-on-1 and group tutoring to students in AP Computer Science A (Java), covering recursion, data structures, and debugging; Improved student understanding through guided problem-solving and code walkthroughs.
- **General Support Assistant (Volunteer)** *Fairfax Cub Run Rec Center* April 2024 – May 2024
  - Assisted 100+ visitors during scheduled events, managing transitions and sign-ins.
  - Resolved visitor issues quickly and maintained schedule alignment during peak hours, reducing staff workload and ensuring smooth event flow.
- **General Support Assistant (Volunteer)** *James Lee Community Center* April 2025 – May 2025
  - Supported staff with event setup and directing guest traffic flow, improving turnaround between sessions and minimizing confusion.
  - Acted as point-of-contact for visitor concerns during sessions.

## Projects

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- **SpyView – Local Browser Tracker & Fingerprinting Monitor**
  - Developed a privacy-focused browser extension in JavaScript that detects fingerprinting and tracking attempts in real time, and assigns them a score based on risk.
  - Scored and classified 5,000+ known trackers and exposed actionable metadata for users and developers.
  - Delivered a fully client-side dashboard that displays all metadata and risk scoring, zero server dependency
- **AutoSFX Wizard – Executable Generator for Multi-File Bundling**
  - Created a hybrid Python/C++ CLI tool to package entire directories into .exe files, streamlining secure file delivery and automation workflows.
  - Successfully bundled and executed 30+ files sequentially from one EXE for use in non local deployments
- **WINSPAR – Command-Line TCP Optimizer**

- Built a Windows CLI utility to auto-tune registry-level TCP/IP settings, reducing latency and optimizing throughput for bandwidth-intensive applications.
- Improved test system throughput by up to 10% in controlled local benchmark
- ***ASIO Client-Server Framework – C++ Networking Core***
  - Engineered a non-blocking message-based client-server architecture in C++ using Boost.Asio, allowing for connection stability and scalability under concurrent load
  - Tested successfully under 100+ simultaneous client connections.
- ***Desktop Tinkerer – Web-Controlled Desktop Automation***
  - Created, and hosted, a Flask website allowing users to select an image to be set to the host machine's wallpaper remotely, showcasing web networking skills.
  - Interfaced web server with a C++ service running semi-persistently on host machine to allow for images to be retrieved by host machine from web server.
- ***Unity Game Development – Indie PC Game***
  - Designed and released a full-featured 3D FPS using Unity and C#
  - Released publicly with over 1,000 downloads and amassed a 2,000-follower community on Twitter through update posts.
- ***RapidCache – Windows RAM Disk CLI Tool (In-Progress)***
  - Developing a CLI utility that pre-loads frequently used applications and files into RAM on system boot, with aim to reduce application launch time by leveraging high-speed memory caching
- ***ZeroTrust Home Server – Secure Access Framework (In-Progress)***
  - Building a zero-trust security layer for home infrastructure (Pi-hole, NAS) on Raspberry Pi
  - Implementing secure web-based authentication portal with framework to enforce identity verification before granting access to internal services

## Certifications

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- [Google Cybersecurity: Foundations](#) — Issued 2023
- [Google Cybersecurity: Manage Security Risks](#) — Issued 2023
- LinkedIn Learning: Data Analytics Foundations — Issued 2022
- [Computer Science Achievement Certificate – Woodson CSHS](#) — Issued May 2023