MOUAD ELMELLOUKI

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EDUCATION

University of Virginia, School of Engineering and Applied Science　　　　　　　　Charlottesville, VA
Bachelor of Science, Computer Science (Focal Path: Cybersecurity, NCAE-CD)　　　　　　　　May 2025
Minor in Applied Mathematics

SKILLS & CERTIFICATIONS

Languages & Tools: Python, Bash, PowerShell, Java, C, C++, TypeScript, HTML/CSS
Cybersecurity & Infrastructure: IAM, Splunk, Threat Analysis, Vulnerability Scanning, TCP/IP, SIEM, Linux, Windows, SaaS/IaaS
Cloud & DevOps: AWS EC2, Lambda, S3, DynamoDB, Docker, FastAPI, API Gateway
Certifications:
- CompTIA Security+
  - Credential ID: COMP001022753815
- UVA NCAE-CD Cyber Security Focal Path

WORK EXPERIENCE

Grapevine, *Software Developer, Charlottesville, VA*　　　　　　　　Aug 2024 – Present
- Developed and deployed a backend system for posting academic content and student organization updates, using FastAPI.
- Configured AWS API Gateway as a secure proxy for managing HTTP requests.
- Utilized AWS S3 for secure media storage and DynamoDB for structured metadata management.
- Led security efforts, implementing IAM roles, access control, and authentication best practices.

VA Cyber Navigator Internship Program, *Information Security Intern, Gate City, VA*　　　　May 2024 – Aug 2024
- Performed penetration tests and vulnerability scans using Nmap, Acunetix, and Wireshark on local election infrastructure.
- Assisted in configuring and deploying security tools to enhance system integrity and meet LESS compliance.
- Reviewed and helped construct a System Security Plan (SSP), Incident Response Plan (ISP), and Remediation Plan for the locality to help meet security standard baselines.

University of Virginia, *Teaching Assistant, Charlottesville, VA*　　　　　　　　Jan 2023 – Jan 2025
- Teaching assistant for CS 2130 (Computer Systems and Organization I) and CS 3120 (Discrete Mathematics and Theory II).
- Led tutorials on computer architecture, assembly language, C, and basic C++.
- Assisted students in debugging low-level security vulnerabilities and understanding memory safety risks.

PROJECTS & RELEVANT COURSEWORK

Defense Against the Dark Arts (CS 4630)
- Learned common cybersecurity attacks and their defense including buffer overflows, format string vulnerabilities, SQL injections, session hijacking, and various malware.
- Developed exploits for vulnerabilities in computer programs in Linux and Window environments
- Implemented countermeasures such as secure coding practices, stack protection, and host-based intrusion detection systems (HIDS).

Computer Network (CS 4457)
- Designed and implemented network protocols, including reliable data transfer and distance-vector routing in Python
- Discussed network communication and the various levels broken down into the seven-layer OSI model.
- Analyzed network security risks including packet sniffing, DoS attacks, ARP spoofing, and encryption vulnerabilities.

Cloud Computing (CS 4740)
- Implemented the Raft consensus algorithm in Go, including heartbeats and replicated log entries.
- Built a fault-tolerant key-value server using RPC communication to ensure exactly once semantics.

Project Code, *Project Member*　　　　　　　　Fall 2023
- Collaborated on side projects including Calenshare (calendar app) and Arbitrage Bot (market scanner).

LEADERSHIP, HONORS, AND EXTRACURRICULAR ACTIVITIES

Engineering Student Council, *Fundraising Committee Member*　　　　　　　　Fall 2021 – Fall 2023
- Collaborate with a team of 12 to organize 4 fundraisers to support the student council and events for 3,000 students.
- Worked with a small group designing merchandise to sell; raised 15% more funds than previous years.