

Mohamed A. Abdel Hamid's Resume

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US Citizen

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Behance ~ Github ~ LinkedIn

Education

Fall 2021 - Present: *Department of Computer & Information Sciences, COLLEGE OF ARTS & SCIENCES, UNIVERSITY OF ST. THOMAS, ST. PAUL, MINNESOTA*

- Recipient of St. Thomas academic scholarship
- Selected in the Dean's Honor List
- Recipient of board of Trustees scholarship
- **Major:** Computer Science (**B.Sc.** Expected **May 2025**)
- **Minors:** Data Science; Psychology
- **Current GPA:** 3.23 (Transcript Available Upon Request)
- **Major GPA:** 3.27

Fall 2024: *Study Abroad Experience, Department of Computer Science & Engineering, AMERICAN UNIVERSITY IN CAIRO, EGYPT*

June 2018 - June 2021: *CAMBRIDGE IGCSE UK, ARAB ACADEMY FOR SCIENCE & TECHNOLOGY, ALEXANDRIA, EGYPT*

Computing Skills

- **Programing Languages:** Java, Python, C/C++, Rust, Flutter (Dart), R, Shell Scripting (Bash), MIPS Assembly, SQL
- **Web Programming:** HTML, PHP, CSS, JavaScript
- **Operating Systems:** Windows, Linux, Unix, Kali Linux, MacOS
- **High Performance Computing**
- **Machine Learning and Deep Learning**
- **Automated Github Workflows**
- **Software Development Lifecycles**
- **CUDA**
- **Container Technology:** Docker
- **Network Simulation:** GNS3
- **Statistical Analysis:** JMP Pro 16, R
- **Jupyter notebook; Google Colab**
- **Graphic Design:** Cinema 4D, Adobe Creative Cloud

Experience

- **Summer 2024 - Present:** [Research on Autonomous Risk Detection and Mitigation for Zero-Trust systems](#) - ARMZTA Student Researcher at Indiana University of Pennsylvania, PA, USA. The aim of project is to develop a novel framework leveraging collaborative machine learning techniques to detect, respond, and mitigate various cyberattacks on networked systems. My tasks involved the use of federated learning and collaborative machine learning to detect malicious traffic and label it using various machine learning algorithms, including XGBoost and neural networks.
- **Jan 2024:** Interned at [AppSoft](#), Egypt. Spent 3-weeks learning Flutter mobile development and basics of Oracle's database Apex.
- **Summer 2023:** Participated in [Research for Undergraduates \(REU\) - Deep Learning Driven Cybersecurity Research in a Multidisciplinary Environment](#) program at Old Dominion University, VA, USA. I worked on a project with a faculty mentor and several PhD students. The focus of the work done was research on Backdoor Attacks and Model Manipulation in AI. In addition, I wrote a paper and prepared a presentation as part of a mock conference. The paper explored the robustness of machine learning models against adversarial attacks. In addition, I have attended the [DeapSECURE workshop](#) as part of the REU program. The workshop enriched my skills using Bash scripts for processing Big Data on a Supercomputer.

Sample Course Work

- Wrote Bash/Python scripts to achieve password cracking through brute force attacks and cryptanalysis.
- Completed a data analysis group project that answered the question, "How hard is it to get into graduate school after completing an undergraduate computer science bachelor's degree?" using statistical tools to produce analytical graphs and statistical distributions.
- Completed an Exploratory Factory Analysis on a movie dataset with R to demonstrate what determines success in movie production.
- Used decision trees and neural networks to analyze survival graphs and hazard ratios in JMP on datasets including lung cancer cells and deer survival winter severity.
- Web scrapped a programming competitions website; creating a backend and developing a website and terminal-based application that can be used to retrieve information about users, teams, organizations, and competitions.
- Hands on experience with Cisco routers and configuring diverse topologies from scratch.

- Implemented a process manager for Ubuntu using Rust (TUI & GUI).
- Hands on experience with system calls using C/Bash on initial XV6 Operating System.
- Led a team through the development lifecycle for a tour guide application using Agile methodology; utilizing Flutter that leverages Gemini AI and includes various helpful functionalities for trip planning.
- Wrote MIPS programs including, but not limited to, isPalindrome, Handling floats on coprocessor, and multiple recursive programs.
- Wrote a Task Manager Mobile App to add, edit, and remove tasks using RESTful API calls.

Languages: English, Arabic

Hobbies: Basketball, Soccer, Weightlifting/Gym, Digital Music Production (FL Studio)