Ayman Mohamed Reda

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Ayman Reda | LinkedIn | Github • *Completed the military service

Malware Analyst with 2 years of experience in malware detection, reverse engineering, and cybersecurity consultation. Passionate about building tools that solve real-world security problems. Strong foundation in static/dynamic analysis and secure software development. Proven knowledge in Hardware Hardening.

EDUCATION

B.Sc / Computer Engineering, Cairo University • **GPA**: 3   **Graduation Year (2023)**

Graduation Project: Guardista   **Grade: Excellent**

Guardista is a software static analyzer that scans binary executables for software vulnerabilities, It achieves state of the art F1-score of 88% on 196 CVE families, it is designed to scan any artifact of any programming language as it accepts binary executables as well as source code files.

PROFESSIONAL EXPERIENCE

Teaching Assistant / Faculty of Computer Engineering, Cairo University
(Oct/2023)-Current

- Holding the following courses:- Cyber Security - Microprocessors – Computer Networks – Programming techniques
- Received positive feedback from professors, other TAs, and students.
- Proposed and developed new teaching techniques, to unlock maximum cognitive abilities of the students.
- Teaching low-level hardware internals, AV development and hardware hardening.

Software Developer / Future of Egypt project
(Mar/2024)-(Feb/2025)

- Implemented different apps that are crucial for FoE project's performance.
- Generated data analytic reports, cutting monthly internal expenses by 14%.
- Refactored legacy codebases for improved maintainability.
- Installed security procedures on workstations to ensure data integrity and security.

Vigil-Anti Developer / Open-source   **(Jun/2023)-(Nov/2023)**

- Developed -and still maintaining- a complete ready-to-use antivirus that utilizes state-of-the art techniques in detecting malwares inside Executables and MS Office files (.pdf, .docx, etc.)
- Achieved 99.7% F1-score which is pretty close to the global threshold for AVs.
- Protecting companies performing mass hiring from malicious CV PDFs as well as technical assessment executables.
- Complete extensive CLI as well as a user-friendly GUI.

Cyber Security instructor / Faculty of Computer Engineering, Cairo University
(Jun/2023)-(Sept/2023)

- Introduced the students to important cyber security concepts they lack in their curriculum.
- Taught students about :- Networks, Pen-testing, Reconnaissance, Risk Scoring, Malware Analysis and Reverse Engineering.
- Required each group to implement a project that will eventually help mankind solve a real problem, all groups excelled in this project.

Internships and Trainings

Architecture 4001: x86-64 Intel Firmware Attack & Defense	**2025**
Coverage-guided Fuzzing (AFL++) at OST2.fyi	2025
Vulnerabilities 1001 & 1002 at OST2.fyi	**2023**
Software Development in python at ITI	2020
Artificial Intelligence summer training at ITIDA	**2019**

Achievements

Exceptional Cyber Security Instructor	**2024**
Developed secure (Top Secret) applications for a military base, still used till this day without bugs or errors.	
Won the third place at CUFE's annual robot competition.	**2023**

Top Projects

- <u>Vigil-Anti</u>, A lightweight open source antivirus ensuring maximum security of your device, achieving state-of-the-art 97% F1-score. Scans executables and office docs (pdf, docx, xlsx, etc.).
- <u>Guardista</u>, My graduation project, Software Static Analyzer; analyzes binary executables for software vulnerabilities. [1]
- <u>TFT-Lib</u>, is an open-source driver for ILI-9341 TFT displays for all ARM-based MCUs, 14% faster than commercial paid libraries, supported with a graphics engine for primitive shapes, very small code size compatible with embedded systems.
- <u>CRUST</u> programming language, a fully working C-like language/compiler that also shares python syntax, with a user-friendly Code Editor.
- <u>Covid</u> Stance Analysis using Arabic NLP techniques.
- <u>Glassifier</u>; Identification of the Gender of a writer based on his offline handwriting.
- <u>Line Follower</u> and Maze Solver robot (winning the third place at CUFE's annual robot competition and receiving two certificates <u>1</u> 2).
- <u>E2E Software testing</u> and stress testing for a Tumblr mock website <u>Tumblr4U</u>.

Skills & languages

- Qt & TCL
- NLP
- Reverse Engineering
- Java
- ARM & x86 asm
- VHDL & Verilog
- Unix / Linux
- JS
- Multi-threading in Python, C++, Java.
- PowerShell
- Python
- C / C++
- NoSQL and SQL DBMSs
- Pytorch

Knowledge

- E2E testing (Cypress & Appium)
- Ghidra, IDA & BinDiff
- NodeJS
- Django
- ROS
- Docker
- Computer Vision
- Technical Writing
- Clean Code
- Markdown
- Software Optimization
- Robotics
- RTOS
- Cryptography
- Mathematical skills
- TypeScript
- Windows Apps & Forms Development