

Ahmed Hamdy Mahmoud

Software Engineer

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GitHub [@/shakram02](#) — Hackster [@/shakram02](#) — [stackoverflow @/shakram02](#)

Experience

Graphmented, BADRIT (Now Incorta Inc.), Alexandria - Software Engineer — November till 31st, December, 2018

- One of best companies in Alexandria. The engineers there love their job and I enjoyed a good community
- Graphmented is an application to visualize data using AR Charts on the iOS platform
- My role was to design and develop features in the application and keeping in mind OOD and SOLID principles
- I learnt how to use a Mac PC up to using Swift with ARKit and writing code for the project in 8 working days
- After the company was acquired in December, I favored pursuing a masters and going back to research

Repoxy: Replication Proxy for Trustworthy SDN Controller Operation [Mohamed Azab, PhD - Ahmed Hamdy, Undergrad - Ahmed Mansour, MSc] TrustCom 2018 — Github — IEEEExplore

- This paper was oriented towards controller security in SDN by applying controller replication
- The main contribution was enabling more than one controller to obtain the network state without knowing about the existence of each other, nor did the network know about the existence of the two controllers
- Implementation required careful reading of the OpenFlow protocol and a fair amount of packet manipulation and crafting. I also implemented some Ansible like software to automate testing across VMs

PI Floor: Portable Interactive Floor with High Resilience and Minimal Setup for Edutainment [Ahmed Hamdy, Grad - Yara Abdullatif, Undergrad - Shaimaa Lazem, PhD] MUM 2018 — Github — ACM DL

- The main contribution of this poster was enabling education in areas with little resources through making an Android app that used paper tiles to represent an interactive grid where students can solve MCQ questions as a game where they move on the tiles to select the answer
- This project won the 1st place in ACM CAIRO CHI chapter's competition
- The implementation included an embedded WebSockets and HTTP server, using Android vision APIs and a VueJS app.

Shixy, Tmentors, Cairo - Intern Software Engineer — October 2015 to August 2016

- Shixy is an advertisement robot that's operated through another endpoint in the network based on a Windows mini PC and Arduino
- My role was to re-design and implement the solutions (C#/WPF) on the pilot's PC and on the robot.
- The pilot's solution had a hardware joystick which I eventually replaced by a software one commands are sent over network to the robot's PC. The solution on the robot communicates with the Arduino which is responsible for the robot motion. It also featured image capturing and display
- Through the internship I self learned design patterns, SOLID, WPF and Dependency Injection and used them in the implementation.

Project: SIC/XE Assembler (Team of 3) Github

- Self learnt Rust language. Rust is a modern System development language by Mozilla. [rust-lang](#)
- Rust is a mixed paradigm language that offers C++ power and automatic memory management at compile time through the Ownership model, which gives it an initial learning curve
- We followed code review system for each Pull Request and used Travis for automating our code testing and did extensive error checking for the input code files

Education

- Computer and Communications department, Faculty of Engineering, Alexandria University [2018] GPA: 3.09
- TOEFL(IBT) **106 [Oct, 2018]**

Languages and Technologies

- C/C++, Python, Arduino, Kotlin, Java, Rust, Android, Machine Learning, Git, Linux and NodeJs.

Extracurricular Activities

Microsoft Student Partner — 2015 - 2016

- Organizing on campus events and delivering the academic email to students
- Attending trainings and a hackathon with Microsoft employees in Cairo and other MSPs all over Egypt
- MUM18 Organizing Student Volunteer; working with other international organizing committee and other SVs
- AIESEC Exchange Participant; educational project in Pontianak, Indonesia