# Ahmed Hamdy Mahmoud
**Software Engineer**

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Hackster @/shakram02 — stackoverflow @/shakram02 — GitHub @/shakram02 [All my projects are here]

## Experience

### Graphmented, BADRIT (Now Incorta Inc.), Alexandria
### Software Engineer — November till 31st, December, 2018
- Graphmented is an application to visualize data using AR Charts on iOS
- Designed and developed features while keeping in mind OOD and SOLID principles
- Self-learned how to use a Mac up to contributing using Swift + ARKit to production code in 8 working days

### Repoxy: Replication Proxy for Trustworthy SDN Controller Operation
### TrustCom 2018 - Github - IEEEXplore
- This paper was oriented towards controller security in SDN using controller redundancy
- 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 knowledge with the OpenFlow protocol besides packet manipulation and crafting. I also implemented an Ansible like software to automate testing across VMs

### PI Floor: Portable Interactive Floor with High Resilience and Minimal Setup for Edutainment
### MUM18 - 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 (Computer-Human Interaction) chapter's competition
- The application utilized an embedded WebSockets and HTTP server, using Android vision 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-learned 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

## Certifications
- Computer and Communications department, Faculty of Engineering, Alexandria University [Jul, 2018]
- TOEFL(IBT) [Oct, 2018] *Score: 106*

## Languages and Technologies [Self-taught]
- C++, Python, Arduino, Kotlin, Java, Rust, Android, Git, LaTeX, Linux and NodeJs. Basic: Machine Learning

## Extracurricular Activities
- IEEE — Student volunteer; Taught C, Arduino courses and I was an instructor for an educational program that teaches programming (C#,Python) and Robotics (Arduino) to middle and high school students
- Microsoft Student Partner — 2015 - 2016. On campus event planning
- MUM18 Organizing Student Volunteer with international volunteers and organization committee
- AIESEC Exchange Participant; Educational project in Indonesia. Volunteers were from 10 different countries