

EDUCATION

Arab Academy for Science & Tech	Cairo, Egypt	Jul 2018
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- **M.Sc. in Computer Science, GPA: 3.63**
- **Coursework:** Advanced Computer Architecture, Computer Networks & Security, Systems Science and Engineering, Advanced Programming Languages, Network Security, Sensor Networks, Pattern Recognition, Computer Security.
- **Thesis:** Gained extensive programming experience and exposure to wireless networks as the project was about security in Cognitive Radio Networks.

Ain Shams Faculty of Engineering	Cairo, Egypt	Jun 2011
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- **Bachelor of Science in Electronics & Communication Engineering, Distinction (Honors)**
- **Coursework:** Have been educated at the beginning of school years about general topics from electrical engineering. Aftermath, I majored in Electronics and Communication which is a program provided by my school at the time aiming at understanding various communication systems, required electronic implementations to achieve them and microwaves and optics as a way for transmission. In the core of the program we have been exposed to various techniques from mathematics to aid in simulation and modeling and understanding field physics.
- **Thesis:** Exposure to photonics and hands-on experience on Matlab as the project was in Photonics.

WORK EXPERIENCE

Academic Staff	NTI Institute, Cairo	April 2012 – Present
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- **Brief**
 - Working for Governmental Institute as a trainer responsible for giving training sessions for freshly graduated students, other academic staff members and providing summer training for technical college students. Also participating in supervising graduation projects for some programs which require so from students involved in our training programs.
- **Teaching**
 - Network fundamentals
 - Mobile IP
 - Python Programming
 - Mobile App Development using Flutter
 - IoT Data Analytics by Cisco Academy
 - ICM 6.7 by VMware Academy
 - Network Virtualization by VMware Academy
 - Deep Learning by Huawei Academy
- **Projects**
 - Network Emulator - *Diploma project*
 - Wireless Routing protocols study via Ns-2 - *Diploma project*
 - IoT smart parking (ICT) - *Diploma project*
 - Smart School - *Diploma project*
 - Integrating Kubernetes with VMware NSX-T Data Center - *VMware program*
 - Attendance Phone Application using Flutter - *Required by Director*

LANGUAGES, DEVICES AND TECHNOLOGIES

- **Javascript**
 - After discovering about designing web applications using REST-api. JS became the main frontend development tool utilizing mainly React JS and React Native frameworks, with exposure to VueJS.
- **Python**
 - Utilizing python for countless tasks among which datascience using Networkx and Scikit. Also delved in designing deep learning networks using Tensorflow.
- **Solidity**
 - Worked on writing few smart contracts and developed an erc-721 token integrated with zk-SNARKS as a part of the fulfillment of the Capstone project for Blockchain Developer Nanodegree by Udacity.
- **Docker**
 - Gained experience on dealing with docker containers through using it to create my development environments.

- **PHP**
 - Having a fair exposure using laravel framework to develop PHP REST-api backend.
- **Dart**
 - Developed few android applications and experimented on developing a web application using flutter framework which requires dart programming.
- **Golang**
 - Blockchain Fabric have been implemented in Golang. Along with a frontend written in Golang compiled into web-assembly.
- **Java**
 - Possessing fair knowledge in Java mainly via Android App Development.
- **Matlab**
 - During academic study years, most projects required writing m-scripts. This included projects in Machine Learning, Optical Modelling and Communication Systems.
- **Linux**
 - Using linux casually in many situation when need requires writing bash scripts, navigating and running specific tools.
- **Bigdata Tools**
 - Hands-on exposure dealing with Pyspark, HDFS and even writing in scala if needed as a part of my instructor role in IoT Bigdata course in Cisco Academy.
- **Routing Protocols**
 - Familiar with different routing protocols RIP, ISIS, OSPF & BGP, experience gained mainly through working with Cisco Routers.
- **C#**
 - In the final nanodegree blockchain developer program, I wrote a blockchain dapp frontend in C# featuring blazor.
- **Elm**
 - Worked on attendance software by face recognition in which the admin frontend part implemented via Elm.
- **NoSql**
 - Familiar about NoSql databases gained through working on MongoDB.
- **Ruby**
 - Familiar with Ruby lang and Rails framework.
- **C++**
 - Master of Science thesis required extensive work in C++ to use ns-3 for the fulfillment of my work.
- **C**
 - Developing programs for Hardware, as I had exposure working on both STM (ARM processors) and arduino boards.
- **IBM Bluemix**
 - Developed nodejs and node-red projects on Bluemix for servers and IoT. Also used Watson for AI.
- **Raspberry pi**
 - Well acquainted in working on developing python and node-red modules on Rpi.
- **Oscilloscope**
 - Familiar with different sorts of measuring oscilloscopes.
- **Latex**
 - Experience in writing short reports, books and presentations in \LaTeX .
- **Swift**
 - I have got a brief exposure to swift once it was released.

SEMINAR PRESENTATIONS

- Presented seminar on *"Mitigating the impact of malicious node in cooperative sensing Cognitive Radio Networks"* for the fulfillment of M.Sc. degree.
- Presented a seminar on *"Mitigating the impact of malicious behavior via utilizing multiple routes in a cooperative sensing Cognitive Radio Network"* in IEEE 15th Student Conference, Malaysia.

PERSONAL TRAITS

- **Fast learner** as at some point during a training period, I self-studied flutter framework in relatively short period to finish the client part in the final project of the Specialized Programme on IoT at Noida, India.
- **Managed** students as a part of my work to fulfill their diploma project "smart parking system" and it was eligible to be presented at Cairo ICT technology fair.
- **Initiative** Initiated to kickstart a LoRa-based radio lab at workplace.
- **Curiosity** lead me to discover Sage which is a great framework that helped me fulfill final parts of my Master thesis.
- **Organizes** course contents and schedule as part of my work.

PUBLICATIONS

- Influence of relaying malicious node within cooperative sensing in cognitive radio network, Wireless Networks, Springer US M Fathy, A Tammam, A Saafan Feb 2018, Wireless Networks
- Mitigating the impact of malicious behavior via utilizing multiple routes in a cooperative sensing Cognitive Radio Network, IEEE 15th Student Conference M Fathy, A Tammam, A Saafan Dec 2017, IEEE Xplore

CREATED TUTORIALS

- WebAssembly to run blockchain using Go - Codementor
- Ethereum dapps - youtube
- Solidity for Smart Contracts on Ethereum - youtube

CERTIFICATES

Coursera <ul style="list-style-type: none">• Visual Elements of User Interface Design	CalArts	NOV 2020
Coursera <ul style="list-style-type: none">• Front-End Web UI Frameworks and Tools: Bootstrap 4	HKUST	OCT 2020
Udacity <ul style="list-style-type: none">• Blockchain Developer	Nanodegree	JUN 2020
VMware <ul style="list-style-type: none">• VMware vSphere 6.7 Foundations	NTI	DEC 2019
British Council <ul style="list-style-type: none">• IELTS Score - 7.5	English Test	Oct 2019
CDAC <ul style="list-style-type: none">• Specialized Programme on IoT	Noida, India	APR 2019
Coursera <ul style="list-style-type: none">• Applied Data Science with Python	University of Michigan	APR 2019
Coursera <ul style="list-style-type: none">• Deep Learning Specialization	deeplearning.ai	JUL 2018
Coursera <ul style="list-style-type: none">• A developer's guide to the Internet of Things (IoT)	IBM	FEB 2018
Cairo University <ul style="list-style-type: none">• Cloud Application Developer - Mastery Award for Students 2016	IBM	MAY 2017
Cairo University <ul style="list-style-type: none">• Cloud Application Developer - Explorer Award for Students 2016	IBM	MAY 2017
ETS <ul style="list-style-type: none">• GRE Analytical Score - 163 <i>out of</i> 170	Reasoning Test	Sep 2014
ETS <ul style="list-style-type: none">• TOEFL Score - 96 <i>out of</i> 120	English Test	Dec 2012
Amit Learning <ul style="list-style-type: none">• iPhone App development using Objective-C	Mobile Application	Summer 2011
Ain Shams University <ul style="list-style-type: none">• VHDL Digital Design Course - by Dr. Watheq El-Kharashi	Mentor Graphics	Summer 2010

SOFTWARE DEVELOPER FOUNDATION

- Understanding is built on a solid foundation i.e. Data Structures, Algorithms, Computer Architecture and Theory of Computation gained from Academic Study.
- Basic knowledge about different Software design patterns.
- Hands-on experience on state management design patterns using Redux, Scoped Model and Business Logic Component (BLoC) pattern.
- Hands-on experience on abstract factory pattern using BuiltValue library provided for Dart and ObjectFactory provided for C++ by Ns-3 toolkit.
- Hands-on experience on singleton design pattern in Angular JS and Laravel.

RESEARCH INTERESTS

IoT Security

IoT security is the topic of interest; since I am intrigued about combining IoT with blockchains to achieve one of the aspects of security.

Reinforcement Learning

Reinforcement Learning is the topic which gets my attention within the umbrella of Machine Learning as optimizing different engineering applications using Reinforcement Learning is a technique which I think I might need to utilize in upcoming research.

Blockchain

Forensic blockchain is one interesting research topic that is still a hot topic and it will definitely quench my passion towards Cryptography.

HOBBIES

Fitness	Latin Dancing	Football	Movies	Documentaries	Comics
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REFERENCES

Prof. Mohsen M. Tantawy National Telecommunication Institute	mohsen.tantawy@nti.sci.eg	Google Scholar
Dr. Emad Abd-Elrahman National Telecommunication Institute	emad.abdelrahman@nti.sci.eg	Google Scholar
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