ABDELRHMAN (ASTRO)

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★: June, 1994

Education

- **Sant'Anna School of Advanced Studies** — Italy, Pisa
  MSc in Information Engineering; Grade: 27/30 — *Dec 2018 - Current*
  Majored in Embedded Computing Systems: Real-Time & Concurrent Distributed Systems, Computer Architecture & Digital Design Dependable & Secure Systems, Optimization Methods Part-Time
- **CIC Canadian International College** — Egypt, Cairo
  Bachelor of Electrical Engineering; Major: Telecommunication Engineering; CGPA: (3.72/4.00) — *Sep 2012 - May 2017*

Skills Summary

- **Languages**: C/C++, Matlab, VHDL, Bash/linux scripting
- **Tools**: Git, GNURadio, OAI5G, Matlab, Simulink & StateFlow, Xilinx-Vivado, ModelSim/ghdl, Code Composer, Latex

Experience

- **AUC: American University in Cairo** — Egypt, Cairo
  Research Assistant — *Feb 2018 - Sep 2018*
  - : Working as a Research Assistant under the supervision of Prof. Karim Seddik on Network Codes based, Instantly Decodable Detwork Coding (IDNC), approach for Real-Time Applications and Multicast, Broadcast Services
    Matlab
- **Virginia Tech -MENA, SmartCI Research Center** — Egypt, Alexandria
  R&D Engineer — *Aug 2017 - Oct 2018*
  - : Worked as a Research and Development Engineer in a Long Term Project funded by National Telecom Regulatory Authority (NTRA) **(CRC-Cognitive Radio Cloud)** to enable a Collaborative Remotely Accessible Environment for Wireless Communication and Networking Research and to drive the rapid development, testing and verification of software radio applications, cognitive radio and dynamic spectrum access experiments based on the enabler technology SDR (e.g. USRPxxx, USRPBxx ,RTL-SDR)
    Contribution:
    - Designing Software Radio Applications using GNURadio toolkit
    - Building and Assembling a MIMO Based LTE testbed
    - Deployment & Testing of the LTE Full Stack E-UTRAN (UE and eNB) over USRP using the open source framework OAI5G (Open Air Interface)
    - Assist with configuration, software installations and upgrades of CRC testbed as planned in Phase2 Specifications.

    GNURadio OAI5G SDR Matlab
- **Vodafone** — Egypt, Giza
  Summer Intern — *2017*
  - : Trained on mobile communication evolution from GSM to LTE-A which covers system overview architicture, air interface, Frame structure, physical layer model ,LTE protocol stack
- **Motorola, SYSTEL** — Egypt, Giza
  Summer Intern — *2016*
  - : Received training on 2 way communication based on TETRA specifications and MOTOROLA solution/product MOTOTORBO, which is based on the ETSI standards.
- **3Hands, Huawei partner** — Egypt, Cairo
  Summer Intern — *2015*
  - : Trained on the most relevant and emerging Mobile Protocols with a comprehensive business and technical foundation in GSM, UMTS (W-CDMA) and LTE/LTE-A.

Projects Listing & Summary

- **mmWave Radar System Verification**: The Motivation is to Test & Evaluate the performance of TI mmWave Radar system using the AWR1843 EVM development board. The objective is to detect objects around the vehicle with speed up to 300 KM/h with a distance up to 150 m. @PERCRO Lab Sant'Anna, IT, Pisa *2019, ongoing*
- **Cognitive Radio Cloud**: The CRC testbed is designed to serve both research and education. For researchers, it enables them to test their work either as a simulation or using real hardware. For education, it gives students the opportunity to gain a hands-on experience with the concepts they study in communications and networking courses.@SmartCI EGY, Alexandria *2018, finished*
- **Cognitive Radio Network**: The project is Developed using GNU Radio platform and CRTS APIs under VT-CORNET Testbed to demonstrate a simplified version of Cognitive Cycle using neural network model deployed on secondary users engine. @CIC, EGY, Cairo] *2017, finished*

Technical Skills & proficiencies

Skills :C/C++ , shell scripting , Linux , VHDL, Matlab , Simulink and Stateflow , Python LaTeX

- Best understanding of 3GPP-specifications: GSM, UMTS, LTE, LTE-A and 5G-NR
- Strong background in Networking & Wireless protocol stacks
- Real-Time systems and concurrent programming (Multi-threading and Multi-processing) in C
- Model-Based design and automatic code generation for Embedded targets
- Good understanding of formal methods for designing a dependable and secure system with emphasizes on formal specification of a system and the formal verification of its properties.
- Good Knowledge of Configuration Management concepts and tools Github/git & SVN
- RTL Programming in VHDL, and understanding the key designing metrics for digital integrated circuits design including ASIC &FPGA
- Good understanding of Convex Optimization methods and Game theory

Publications

Abdelrahman S.A, *Ahmed El Dieb, Ingy Mohy, Omar Khaled, Amr Alaa, Mohamed Ali*, Real Time Spectrum Occupancy Prediction DOI:10.1007/978-3-030-11437-4_17, springer nature (WIDECOM 2019), Milan

Workshops & Training

Dec 2019 Fall 2019 OpenAirInterface Workshop — China, Beijing
Beijing university of posts and telecommunications

June 2019 OpenAirInterface North America Workshop — USA, New Jersey
NJ- Nokia Bell Labs

DEC 2018 Joint ETSI - OSA Workshop: Open Implementations and Standardization — France, Sophia Antipolis
ETSI

Dec 2017 Big Data Science — Egypt, Giza
National Telecommunication Institute

Oct 2017 Satellite Communications: Technical & Regulatory Considerations, ITU — Egypt, Giza
National Telecommunication Union

Dec 2015 Embedded Systems - AVR based Architecture — Egypt, Giza
Embedded Fab

May 2015 S6.02x: Embedded Systems - Shape the World, ARM based Architecture — Online
EDX, The University of Texas System

Languages

Arabic: Native
EnglishFluent

Firma