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Career Objective:

I am seeking to maximize success in research and innovation for faculty, and student, as well as to comply with all required standards of research administration.

Current Position

- Teacher Assistant at Faculty of Engineering Cairo University
- Research Engineer at Smartec-group (Research and Development Department)

Education:

- **Department of, Electronics and Electrically Communications Graduate (class 2016)**
  - **Rank :** 2nd
  - **Accumulative Grade :** Distinct with honor (93.52%)
- **Maadi Narmer school:** (2008 – 2011)
  - Secondary Education Certificate: 100.34%

Technical Skills:

- RTL modeling using VHDL and Verilog.
- Microprocessor and Digital circuits design.
- Data structural theories.
- Computer and processor architecture.
- Very Good command of C++, C and data structure.
- Programming of Microcontrollers using micro C.
- Computer and Micro-controller interfacing.
- Embedded Systems and Robotics Projects using PIC microcontroller.
- Motors and sensors interface using Micro-controller.
- Very Good command of assembly language.
- MATLAB programming, GUI and Simulink.
- Simulation Software (Cadence , Multisim and Proteus).
- Basics of Python.
- Basics of Raspberry pi
- Basics of LINUX (shell scripting)
- Arduino

- **Elective courses**
  - Satellite Communication
  - Wireless Network Course
  - Digital Signal Processing

Projects:

- Temperature and Motion Monitoring System Design, build, and test a hardware circuit for a temperature and motion monitoring system using PIC microcontroller, sensors ,LCD and keypad supported by a MATLAB GUI for continuously updating a PC with the temperature and motion state through serial communication between them.
- 32-Bit General-purpose integer processor [BASED ON TRIADIC HARVERD ARCHITECTURE] using VHDL.
- Solving problems using MATLAB (Filters, Transmitters and Receivers).
- Design and implement combinational parts of ALU (Adder/subtractor)
- Assembly programming projects.
- Minesweeper competition
- Touch sensor using Arduino and layout on PCB
- Electronics circuits (mini alarm – light detector)
- Many sensors (light, IR, temp, motion .,. etc.)

Extracurricular Activities:

- Co-founder in Embedded System Laboratory in Faculty of Engineering-Cairo University.(2013-2014).
- Head of Organizational committees in ESL lab(2014-2015).
- Basics of GSM from 1G to 4G by VODAFONE
- Core network workshop by VODAFONE
- Moderator of Microcontroller workshop(2014-2015).
- OC member in IEEE (2013-2014).
- Batch representative in 1^{st} , 2^{nd} , and 3^{rd} year.(2012-2015)
- Participant in the student activity STP (2012-2013).
- Founder in the student activity PAZ (proactivity at Zayed) (2011-2012).
- Leadership paradox (Dr. Phil Johnson)
- HR course at STP
- Moderator of Touch Sensor Session
- Trainee at mentor Graphics (2015)
- Volunteer in Resala charity organization

Personal Experience:

- Trainee at EGPC (Egyptian General Petroleum Corporation) (2013)
- Summer trainee in EGYPT-TELECOM (July 2014).
- Trainee at Mentor Graphics (2015)

Graduation Project:

Name of the project: Capacity Management of 3G network
Supervisor: Dr. Mohamed Khairy
Sponsored by: Vodafone
Idea of the project: Capacity is one of the main problems facing mobile companies due to the rapid increase in popularity. Places with high capacity face problems of call blocking, call drop and other problems. In our project, we are trying to solve these problems through capacity management algorithm. The algorithm mainly depends on handling the four resources of the 3G network cell which are: power, uplink interference, code and channel elements. one of the methods that we depend on is load sharing or load balancing which means re-distributing the users of the network cells to achieve the max efficiency with the best call quality in the congested regions. Through these reports, we can periodically detect the congested places and find a solution to congestion through several solutions as changing the parameter setting of the cell, the redirection of the mobile user to the less congested neighboring cell, ... etc. Our project consists of three main phases.
First phase is the detection phase and this phase mainly targets detecting the congested cells and extract it in an excel sheet.
Second phase is the recommendation phase. It depends mainly on algorithm used to manage the 3G resources (power - uplink interference - codes - channel element). The algorithm, first checks the parameter settings of the network. Then we start by parameters settings and as a last stage we trigger features like loadsharing, missing neighbors and pilot pollution.
At last the third phase in the project is the performance of the network. In this phase, charts and maps are drawn according to the chosen filter.
Tools: java programming language, SQL, Microsoft Excel Sheet, Google Maps

Soft Skills:

- **Languages:**
  - Arabic: Native
  - English: very good
- **Personal Skills:**
  - Have the Ability of learning.
  - Team worker and working under pressure
  - Problem solving and quick Learning.
  - Differences Acknowledgment.
  - Time Management**.**
  - Sense of responsibility and commitment.
- **Interests:**
  - Reading
  - Traveling
  - Surfing on the Internet
  - Handmade crafts

Personal Information:

- **Date of Birth:** 1st of June 1993.
- **Nationality:** Egyptian.

References Furnished upon request.