

OBJECTIVE

Be part of a research group through a PhD program to build the foundation of my academic career.

EDUCATION

M.S. in Electronics and Electrical Communications Engineering Oct. 2011-June 2015

Cairo University, Cairo, Egypt

Thesis: "Optimization of User Behavior Handover using Fuzzy Q-Learning for LTE Networks"

Cumulative grade: "Distinction with honor". Rank: 1st out of 15 student class. GPA: 4.00.

B.S. in Electronics and Electrical Communications Engineering Sept 2006-June 2011

Cairo University, Cairo, Egypt

Graduation Project "CoOrdinated MultiPoint (COMP) Transmission Techniques for LTE-Advanced"

Cumulative grade: "Distinction with honor". Rank: 8th out of 350 student class. GPA: 4.00.

Honors and Awards

- Teaching Assistantship by Department of Electronics and Communications Engineering, Cairo University. Jan. 2012-Jan 2013
- Masters Fellowship by Department of Electronics and Communications Engineering, Cairo University. Oct. 2011-June 2015
- First place in Intel competition for trainees. July 2010
- Cairo University Annual fellowship for distinguished undergraduate students. 2006-2010

LANGUAGES & SOFTWARE:

- C++
- MATLAB
- Shell scripting

PROJECTS

Thesis: "**Optimization of User Behavior Handover using Fuzzy Q-Learning for LTE Networks**"

- Minimization of the most challenging handover problems for each category of users by optimizing handover parameters using fuzzy Q-learning.
- An open source framework to simulate LTE networks "LTE-Sim" (C++ Programming) is used.
- Supervised by: Prof. Hanan Kamal and Assist. Prof. Omar Nasr.

Graduation Project: "**CoOrdinated MultiPoint (COMP) Transmission Techniques for LTE-Advanced**"

- Improving the cell edge user throughput by using new interference reduction transmission schemes such as joint transmission, coordinated beam forming, power allocation and a combination of them.
- LTE system level simulator of Vienna University of Technology (MATLAB Scripting) is used.
- Supervised by: Dr Ahmed Salah.

Digital Communications Projects

- Simulation of line codes (unipolar NZ, polar RZ, polar NZ, and AMI NZ).
- Simulation of matched filters and correlators in noise free environment.
- Digital Modulation in an AWGN channel for BPSK, QPSK, 8-PSK and 16-QAM.
- Simulation of OFDM for Rayleigh fading and AWGN channel.

WORK EXPERIENCE

Teaching/Research Assistant, Electrical and Communications Department, Cairo University

- Systems. Sept. 2011-June 2015
- Electronics.
- Control Lab.

Lab instructor for the Communication lab at the American University in Cairo Sept.-Dec. 2011

- Implementation of basic Communications systems.

Summer internship with INTEL wireless communication team in Egypt June-July 2010

- Fundamentals of WiMAX.
- Basic training on Wireless-Communication MATLAB Lab.
- Introduction to Cell Plan.

PUBLICATIONS

- R.Hegazy; O.Nasr, "A User Behavior Based Handover Optimization Algorithm for LTE Networks," *Wireless Communications and Networking Conference (WCNC), 2015 IEEE, 2015*.
- Hegazy, R.D.; Nasr, O.A.; Kamal, H.A, "Optimization of User Behavior Handover using Fuzzy Q-Learning for LTE Networks," *Journal, to be submitted*.

RELATED COURSEWORK:

Digital Communications
Signals and Systems
Optimization Techniques

Advanced Mathematics
Linear Stochastic Control
Non-Linear Control

Computer Control

REFERENCES

Prof. Hanan Kamal: Electrical and Communications Engineering, Cairo University.

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Dr. Omar Nasr: Electrical and Communications Engineering, Cairo University.

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Dr. Ahmed Salah: Electrical and Communications Engineering, InterDigital Communications Inc.

E-mail: ahmed.mohamed@interdigital.com