Ahmed Fahmy Hussein

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EDUCATION

State University of New York at Albany (UAlbany), Albany, New York
PhD, Electrical and Computer Engineering (ECE)
Expected August, 2021 GPA: 3.9/4.0

Arab Academy for Science, Technology and Maritime Transport (AAST), Alexandria, Egypt
MSc, Electronics and Communications
March 2016 GPA: 4.0/4.0

Arab Academy for Science, Technology and Maritime Transport, Alexandria, Egypt
BSc, Electronics and Communications
July 2012 GPA: 4.0/4.0

TECHNICAL SKILLS

Languages : C , Matlab
Familiar : Python, Bash, VHDL, Assembly, Ladder
Tools and Systems : NS-2, Circuit Design and Simulators (Spice, MultiSim, Proteus), Embedded Systems (AVR, Arduino, Raspberrypi), PCB, FPGA, PLC, SCADA

EXPERIENCE

UAlbany Teaching Assistant **Sep 17 - Current**
Leading tutorials and lab sessions
• Digital Logic Design • Introduction to ECE • Introduction to Digital Circuits
• Digital Signal Processing

AAST Teaching Assistant **Sep 12 - Aug 16**
Leading tutorials and lab sessions for more than 10 courses including
• Analog and Digital communication systems • Electronic Measurements • Optical Communications • Telecommunications Networks • Electromagnetics

Photonic Research Lab (PRL) Senior member **Sep 13 - Aug 16**
Setting the first photonics lab on campus
• 4 graduation projects mentor
• Treasurer: purchases and equipment

IEEE AAST board member **Sep 11 - Sep 12**
Leading board activities plus fund raising and treasury
• 2012 Sponsors include: Google, Itida, SAS and Momentum

Intern
• **Vodafone Telecom, Egypt**
Network Field Maintenance (NFM) **Aug 2011**
• **AAST Simulator, Egypt**
Marine Wireless Communications **July 2011**
• **ABB, Egypt**
Water Stations Control Units **July-Aug 2010**
• **Electrical Distributing Company, Egypt**
Wireless Communication Systems between stations **June 2009**

PROJECTS

• **CHRONOS**
Working on a novel architecture to decouple baseband signal processing from front-ends allowing for complex, joint processing of signals from spatially distributed radio units. The prject implements DSP kernels by pooling FPGA, CPU and GPU resources for scalable and on-demand provisioning.

• **UWB: Intelligent Transportation**
Partnered with CTG UAlbany, UAlbany Parking and Mass Transit, and UAlbany Office of Facilities Management to study the feasibility of using UWB technology to improve public transportation.
https://www.ctg.albany.edu/projects/ultrawideband/
https://www.albany.edu/sine/assets/docs/UAlbany%20UWB%20Study.pdf

ADDITIONAL ACTIVITIES

• Co-founder of LuminaReality
• Reviewer for prestigious journals as: IEEE Transactions on Communications, EURASIP Journal on Wireless Communications and Networking, and Optics Express

AWARDS

• NSF ICorps Cohort 6: USD3000, Spring 2019
• UAlbany innovation scholarship: USD1200, Spring 2019
• 3rd place winner in UAlbany shark tank startup competition: USD1000, Spring 2019
https://www.timesunion.com/business/article/Online-student-marketplace-plan-wins-UAlbany-13745309.php
• PhD full assistantship and tuition waiver at UAlbany, Aug 16-Aug 21
• 1st place IEEE student branches international website contest, academic advisor, 2013
• IEEE region 8 exemplary student branch award, academic advisor, 2013
• Darrel Chong student activity bronze award, academic advisor, 2013
• IEEE region 8 exemplary student branch award, board member, 2012
• IEEE enterprise award- honourable mention- Smart Waiter graduation project, 2012
• Full admission MSc scholarship at AAST, Fall 12 Spring 16
• Full admission BSc scholarship based on merit at AAST, Fall 07 - Spring 12

PUBLICATIONS

• A. F. Hussein, H. Elgala and T. D. C. Little, "Evolution of Multi-Tier Transmission Towards 5G Li-Fi Networks," 2018 IEEE Global Communications Conference (GLOBECOM), Abu Dhabi, United Arab Emirates, 2018, pp. 1-7
• Ahmed F. Hussein, Hany Elgala, Lightweight multi-carrier modulation for IoT, 2018 SPIE 10559, Broadband Access Communication Technologies XII, San Fransisco, USA
• Ahmed F. Hussein, Hany Elgala, and Thomas D.C. Little, Visible light communications: toward multi-service waveforms, 2018 15th IEEE Consumer Communications and Networking Conference, Las Vegas, USA
• Ahmed F. Hussein, Hany Elgala, Bassem Fahs and Mona Hella, "Experimental investigation of DCO-OFDM adaptive loading using Si PN-based receiver," 2017 26th Wireless and Optical Communication Conference (WOCC), Newark, NJ, 2017, pp. 1-5
• Ahmed F. Hussein, Ahmed Abd El Aziz, Heba A. Fayed, and Moustafa A.Aly, A Free Space Optical Link in a Laboratory Environment, 2015 13th Annual Student Conference on Research and Development, Kuala Lampur, Malaysia, Dec. 2015, pp. 317-321. ISSN: 978-1-4673-9572-4
• Ahmed F. Hussein, Ahmed Abd El Aziz, Heba A. Fayed, and Moustafa A.Aly, On-Board and Train-to-Wayside Free Space Optical Link Characterization, 2019 4th International Conference on Advanced Technology and Applied Sciences, Egypt, Sep. 2019, pp. 239-253
• Maqsood Careem, Monette Khadr, Ahmed F. Hussien, Dola Saha, Hany Elgala and Aveek Dutta, "CHRONOS: A Cloud based Hybrid RF-Optical Network Over Synchronous Links", in 2018 IEEE 5G World Forum (5GWF)
• Priti Pachpande, Monette Khadr, Ahmed F. Hussein, and Hany Elgala, Visible Light Communication Using Deep Learning Techniques, in IEEE Sarnoff Symposium 2018, Newark, New Jersey, USA, September 24-25, 2018