

# *Curriculum vitae*

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## **Business Address**

Dept. of Electronics and Communications Engineering  
Institute of Aviation Engineering & Technology (IAET)  
Embaba, Giza, Egypt  
<http://www.iaet-eg.org/>

## **Home Address**

16 El-Sokar & Limon St., El-Malek El-Saleh  
Cairo, Egypt

## **Personal Information**

**Name:** Ramez Mohamed Abdellah El-Askary  
**Date of Birth:** October 8, 1984  
**Nationality:** Egyptian  
**Marital status:** Married  
**Military status:** Postponed for 3 years and now exempted  
**Gender:** Male  
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## **Education**

**Ph.D. in Electronics and communications Engineering Department, I had finished Ph.D in 28 March 2022.**

- **Cairo University, Giza, Egypt.**
- I had finished the Preliminary materials (**GPA: 3.9 'A-'**).
- The thesis is entitled "***Closed Form Analysis for Indirect Learning Digital Pre-Distorter for Wideband Wireless Communication Systems***". In the thesis, we analyze the indirect learning architecture digital pre-distorter (ILA-DPD). We provide the analytical methodology for deriving the mathematical expressions for each DPD coefficient and then provide an open-access code that generates the DPD coefficients in symbolic form. We show that the proposed model is a valid mathematical representation of the DPD. Also, we provide a closed-form solution for the iterative adaptive ILA-DPD. Furthermore, we derive important measures in communication systems, e.g. normalized mean square error (NMSE) and achievable rate. Also, we analytically study the effect of system impairments on the DPD coefficients. Therefore, we derive the performance measures that are stated above for the transmit chain. We present closed-form expressions for the NMSE and achievable rate bounds, for the transmit chain and typical communication system. Finally, for a typical communication system under a receiver power consumption budget constraint, we analyze how the signal-to-noise and distortion ratio (SNDR) can be maximized by setting the optimal analog-digital converter (ADC) resolution and bandwidth.

**M.Sc. In Electronics and Communications Engineering Department, I had finished MSc degree in 18 Jun. 2014.**

- **Cairo University, Giza, Egypt.**
- **Dissertation** working in the thesis entitled "***Optimum Spectrum Sensing Techniques for Cooperative Cognitive Radio Networks to Limit Interference on Primary System***". Cognitive radio (CR) is an effective way to improve the utilization of spectrum source. Spectrum sensing is playing an important role in cognitive radio network (CRN) to detect the presence of the primary users (PUs). One of the most critical issues in spectrum sensing is the interference on PU. In this work, a

novel optimal voting rule is proposed to minimize the Bayes risk function in cooperative spectrum sensing. Furthermore, an algorithm to optimize the energy detection threshold for the CR users for any fusion rule is presented. On the other hand, an algorithm that determines the optimum fusion rule and optimum threshold that minimizes the false alarm probability such that the missing probability under constraint (bounded error) is suggested. Moreover, the local energy detection threshold in four cases is studied (for no fading channel at large and small time bandwidth product, and for Raleigh fading channel at large and small time bandwidth product).

**B.Sc. In Electronics and Communications engineering**, Institute of Aviation Engineering and Technology (IAET), Giza, Egypt.

- **Graduation Date:** 2006
- **Accumulative grade:** Excellence with honors (89.2% - rank: 3<sup>rd</sup>).
- **Final year grade:** Excellent (94.1% - rank: 1<sup>st</sup>).
- **Graduation Project grade:** Excellent

### **Experience**

**February 2022 – present:**

**Instructor at Department of Electronics and Communication Engineering, IAET, Giza, Egypt)**

- During my tenure, I have supervised numerous successful graduation projects in various fields such as mobile communications and digital design. I provided guidance and leadership to student teams, ensuring the smooth and successful execution of projects.

Teaching:

- **Information theory** (Source coding, Channel Capacity, Channel Coding).
- **Mobile communications** (Basic of Cellular Communications, Mobile Radio Propagation Large Scale Path Loss, Small-Scale Fading and Multipath, Diversity, Multiple Access of Wireless Communications, GSM Wireless Systems and Standards, IS 95 Wireless Systems and Standards, and Evolution from 2G to 4G).
- **Satellite Based Navigation Systems** (Global Positioning System GPS, Principle of Operation, The Four Positioning Equations, The System Components, Navigation Message Structure, Spread Spectrum Coding for Satellite Signal, Satellite Signal Structure, and Differential GPS and Sources of Errors, and The Russian GLONASS System.
- Electrical communications (3<sup>rd</sup> year)
- System control engineering (3<sup>rd</sup> year)
- Discrete control engineering (4<sup>th</sup> year)
- Computer Applications (1<sup>st</sup> year)
- Basic Electronics (1<sup>st</sup> year)
- Advanced Electronics (3<sup>rd</sup> year)

**September 2006 – December 2021:**

**Teaching Assistant in undergraduate classes (Department of Electronics and Communication Engineering, IAET, Giza, Egypt)**

Assisted in teaching: (15 years of experience from 2006 until 2021)

- Electrical communications (3<sup>rd</sup> year)
- Mobile communications (4<sup>th</sup> year)
- Satellite (4<sup>th</sup> year)
- Information theory (4<sup>th</sup> year)
- Radio and Radar Aids To Navigation (4<sup>th</sup> year)
- Satellite Based Navigation Systems (4<sup>th</sup> year)
- Fields (1<sup>st</sup> year)

- Electromagnetic Waves (2<sup>nd</sup> year)
- Electromagnetic Waves (3<sup>rd</sup> year)
- Introduction to Computer (preparatory year)
- Electronics (1<sup>st</sup> year)
- Physics(1<sup>st</sup> year)
- Mathematics (preparatory year)
- Mathematics (1<sup>st</sup> year)
- Mathematics (2<sup>nd</sup> year)
- Mathematics (3<sup>rd</sup> year)
- Physics labs for preparatory and 1<sup>st</sup> year students.

**I've done some administrative work in exam control, quality administration, IT ...etc.**

**Dec. 2013:**

**Training at the Egyptian company for satellite station.**

### **Software Skills**

- Experienced user of "Matlab/Simulink" user.
- Very good user of "Micro controller" user.
- Very good knowledge of "Mobile package".
- Good user of "C++".

### **Languages**

- Arabic: Native
- **English: Very Good (reading and writing), Good (Speaking) "Preparing for TOEFL iBT Test."**