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# Tamer Farouk Mohamed Farid BADRAN

## Education

**Philosophy of Doctor in Computer Science, Telecommunications, and Electronics** — April 2013 – June 2020
Team CIAN, Laboratory LIP6 – Sorbonne University — Paris – France

*Subject*: Spectrum Sensing Using Software Defined Receivers
*Supervisor*: Dr. Hassan Aboushady

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**Master of Science in Electronics and Communication Engineering** — Oct 2004 – Jul 2008
Electrical Engineering Department, Faculty of Engineering, Assiut University — Assiut, Egypt

*Subject*: "Design and Implementation of a Reconfigurable Hardware Network Intrusion Detection System"
*Supervisors*: Prof. Dr. Mohamad Abdel-Gawad Mohamad
Dr. Hany Hilmy Ahmad

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**Bachelor of Science in Electronics and Communication Engineering** — Sep 1999 – Jul 2004
Electrical Engineering Department, Faculty of Engineering, Assiut University — Assiut, Egypt

*Grade*: Very Good, Top of the Class (more than 150 students).
*Graduation Project*: "Design and Implementation of Digital Integrated Circuits using CMOS Technology",
*Supervisor*: Prof. Dr. Mohamad Abdel-Gawad Mohamad

## Patents and Publications

- Tamer F. Badran, Hany H. Ahmad, Mohamad Abdel-Gawad, "Network Intrusion Detection: A Review", Proceedings of Engineering between Theory and Practice Conference, pp. 172-178, Assiut University, May 2007.
- Tamer F. Badran, Hany H. Ahmad, Mohamad Abdel-Gawad, "A Reconfigurable Multi-Bit Regular-Expression Matching Architecture for Signature-Based Intrusion Detection", 3rd International Conference on Information and Communication Technologies: From Theory to Applications (ICTTA), 2008.
- Tamer F. Badran, Hany H. Ahmad, Mohamad Abdel-Gawad, "A Reconfigurable Multi-Bit Regular-Expression Matching Architecture", 6th International Conference on Electrical Engineering (ICEENG), the Military Technical College, May 2008.
- Tamer Badran and Hassan Aboushady. "Delta-sigma modulator based spectrum sensing transceiver." In 2016 IEEE International Conference on Electronics, Circuits and Systems (ICECS), pp. 443-443. IEEE, 2016.
- Hassan Aboushady, Tamer Badran, Alhassan Sayed, 'Sigma Delta Modulator', Active US Patent no. US10530385B2, 2017.
- Alhassan Sayed, Tamer Badran, Marie-Minerve Louërat, and Hassan Aboushady. "A 1.5-to-3.0 GHz Tunable RF Sigma-Delta ADC With a Fixed Set of Coefficients and a Programmable Loop Delay." IEEE Transactions on Circuits and Systems II: Express Briefs 67, no. 9 (2020).

## Research Interests

- Configurable Architectures Design
- Mixed-Signal Integrated Circuit Design
- Cryptography and Security
- Computer Vision and Machine Learning

## Teaching and Supervision

**Teaching Assistant** — Sep 2004 – Jan 2009
Electrical Engineering Department, Faculty of Engineering, Assiut University — Assiut, Egypt

- Undergraduate Courses (average of 36 hours/week): Electronic Devices and Circuits, Digital VLSI Design, Signals and Systems, Analog Communication Systems, Digital Communication Systems.
- Co-Supervision of Graduation Projects: Design and Implementation of Encryption Algorithm « E0 » of bluetooth on ASIC - Design and Implementation of CDMA receiver using FPGAs – Local Positioning System Simulation using MATLAB and Labview Kits

**Teaching Assistant** — Feb 2009 – Mar 2013
Department of Electronics and Communication Engineering, Faculty of Engineering and Technology, AASTMT — Alexandria, Egypt

- Undergraduate Courses (average of 18 hours/week): Electonic Circuit Design, Analog Microelectronic Circuits, Digital VLSI Design
- Co-Supervision of Graduation Projects: CMOS Design of SRAM on ASIC, Low-Power Low-Pass Filter Design on ASIC, Design and Implementation of Encryption Algorithm « E0 » of bluetooth using FPGA - Design and Implementation of Fast Fourier Transform Processor using FPGA

**Research Assistant** — 2015 –2019
Team CIAN, Laboratory LIP6 – Sorbonne University — Paris – France

- Co-Supervision of M.Sc. Students and Visiting Students:
  - Leonardo Orozco, 'Gigabit Tansceivers on Altera FPGAs', Sep – Nov 2015, Visiting from CINVESTAV, Guadalajara, Mexico.
  - F. Keddous and M. Khelif, 'Simulation of Baseband Spectrum Sensing Receiver', M.Sc. Students, Jan – Jul 2016, LIP6, Paris, France
  - Shadi Turk, 'Design and Implementation of a Reconfigurable Circuit for Spectrum Sensing', M.Sc. Student, Feb – Sep 2017, LIP6, Paris, France
  - Alexandre Mendy, 'IQ Mismatch Effect on Spectrum Sensing Performance', M.Sc. Student, Apr – Sep 2018, LIP6, Paris, France
  - Alan Rodrigo Diaz Rizo, 'IQ Mismatch Effect on Spectrum Sensing Performance', Jun – Oct 2018, Visiting from CINVESTAV, Guadalajara, Mexico.
  - Andrew Lofts, 'RF-EMF Effects on Neonates', Mar – Jun 2018, Visiting from Waterloo University, Canada
  - Karly Smith, 'RF-EMF Effects on Neonates', May – Sep 2019, Visiting from Waterloo University, Canada

**Assistant Professor** — Jul 2020 – Present
Department of Electronics and Communication Engineering, Faculty of Engineering and Technology, AASTMT — Alexandria, Egypt
Undergraduate Courses: (Average of 16 hours/week), Electronic Circuit Design, Analog Microelectronic Circuits, Digital VLSI Design, Electronics

## Skills

**Software Tools and Programming Languages:**
FPGA Xilinx and Altera Design Tools, Mentor Graphics Modelsim, Cadence Virtuoso, Maple, P/H-SPICE Netlist simulation, MATLAB and Simulink, Verilog and VHDL, Python.

**Spoken Languages:**
English; Good