



Ahmed Shalaby



<http://www.linkedin.com/in/ashalaby>

<https://bu.edu.eg/staff/ahmedshalaby14>

- BIRTHDATE:
05-06-1983

- NATIONALITY:
EGY

- EMAIL:
ahmed.shalaby
@fci.bu.edu.eg

ahmed.shalaby
@ejust.edu.eg

Academic & Research

- 2020 to Now **Benha University - Faculty of Computers & AI**
Position: **Associate Professor** - Computer Science Dept.
- 2019 - 2021 **National University of Singapore - School of Computing**
Position: **Research Fellow** - Computer Science Dept.
- 2017 - 2019 **Benha University - Faculty of Computers & AI**
Position: **Assistant Professor** - Computer Science Dept.
- 2016 - 2018 **Information Technology Institute, Cairo, Egypt.**
Position: **Adjunct-Lecturer**, Digital IC Design Program.
- 2017 - 2018 **Egypt-Japan University of Science and Technology**
Position: **Adjunct-Assistant Professor** - ECE Dept.
- 2014 - 2016 Position: **Postdoctoral Research Fellow** - ECE Dept.
National Institute of Informatics, Tokyo, Japan
- 2012 - 2013 Position: **Research Assistant** at Dr.Koibuchi Laboratory.

Industry & Tech Experience

- 2008 - 2010 **SySDSofT**, acquired by **Intel Mobile Communications, Cairo Office, Egypt.**
Position: **PHY Layer Engineer.**
- 2007 - 2008 **Mentor Graphics at Cairo Office, Egypt.**
Position: **Quality Assurance Engineer in QuestaSim Team.**

Research Interests

Hardware Security, Network-on-Chip, Hardware accelerators, Digital and Low Power Circuit Design, and Embedded Systems & System-on-Chip.

Research Projects

- [1] Smart Water Management Irrigation System, **ITIDA**. [Co-PI | 2015 -2017]
- [2] Hardware Accelerators for HEVC Encoder in Video Conferencing and Surveillance, **NTRA**. [Co-PI | 2016 - 2019]
- [3] Assuring Hardware Security by Design In Systems On-Chip, **National Research Foundation, Singapore**. [Research fellow | 2019 – 2021]

Education

Ph.D., Electronics and Communications Engineering, September 2013.

Thesis title: **Network Coding Applied to Network-on-Chip.**
Egypt-Japan University of Science and Technology (E-JUST), Alexandria, Egypt.

M.Sc., Electrical Engineering, September 2010.

Thesis title: **Implementation of Chirp Spread Spectrum ZigBee Physical Layer Transceiver Based on the IEEE 802.15.4a standard.**
Alexandria University, Alexandria, Egypt.

Diploma, Very Large Integrated Circuits Program, July 2007.

Information Technology Institute, Cairo, Egypt.

B.Sc., Electrical Engineering, June 2005.

Alexandria University, Alexandria, Egypt.

Publications:

Selected Papers

GoogleScholar: Ahmed Shalaby (Full list of publications +50)

- [1] **Shalaby, A.**, Tavva, Y., Carlson, T.E. and Peh, L.S., (2021), October. "Sentry-NoC: a statically-scheduled NoC for secure SoCs".
15th IEEE/ACM International Symposium on Networks-on-Chip (NOCS) (pp. 67-74).
- [2] El-Ashry, S., Khamis, M., Ibrahim, H., **Shalaby, A.**, Elsalam, M. A., & El-Kharashi, M. W. (2019). "On Error Injection for NoC Platforms: A UVM-based Generic Verification Environment".
IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems. 39(5), pp.1137-1150.
- [3] Said, M., **Shalaby, A.**, & Gebali, F. (2019). "Thermal-aware network-on-chip: Single-and cross-layered approaches".
Future Generation Computer Systems, 91, 61-85.
- [4] El-Mohandes, A. M., **Shalaby, A.**, & Sayed, M. S. (2018). "Efficient Low-Power Digital Baseband Transceiver for IEEE 802.15. 6 Narrowband Physical Layer".
IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 26(11), 2372-2385.
- [5] Saad, O. M., **Shalaby, A.**, Samy, L., & Sayed, M. S. (2018). "Automatic arrival time detection for earthquakes based on Modified Laplacian of Gaussian filter".
Computers & Geosciences, 113, 43-53.
- [6] Saad, O.M., Inoue, K., **Shalaby, A.**, Samy, L., and Sayed, M.S., (2018). "Automatic arrival time detection for earthquakes based on stacked denoising autoencoder".
IEEE Geoscience and Remote Sensing Letters, 15(11), pp.1687-1691.
- [7] Abdelsalam, Ahmed M., **Shalaby, A.**, and Mohammed S. Sayed. (2017) "Towards an FPGA-Based HEVC Encoder: A Low-Complexity Rate Distortion Scheme for AMVP."
IET Circuits, Systems, and Signal Processing, 1-20.
- [8] Sayed, M. S., **Shalaby, A.**, El-Sayed, M., & Mehdipour, F. (2016) "A Design Methodology for Performance Maintenance of 3D Network-on-Chip with Multiplexed Through Silicon Vias."
Elsevier Journal on Microprocessors and Microsystems, 9-16, ACM.
- [9] Medhat, A., **Shalaby, A.**, Sayed, M. S., Elsabrouty, M., & Mehdipour, F (2016) "Adaptive Low Complexity Motion Estimation Algorithm for high efficiency video coding Encoder."
IET Image Processing Journal, 10(6):438-47.
- [10] **Shalaby, A.**, Fujiwara, I., & Koibuchi, M. (2015). "The Case for Network Coding for Collective Communication on HPC Interconnection Networks."
IEICE TRANSACTIONS on Information and Systems, 98(3), 661-670.

Supervision:

Co-supervise postgraduate students at E-JUST and Ain-Shams Universities.
Four Ph.D. students and Seven M.Sc. students.

Teaching

- **Logic Design.**
- **Computer Architecture and Organization.**
- **Embedded Systems.**
- **Sensors and DSP Systems Design.**
- **Complex Digital Systems Design.**
- **FPGA & HDL Language [Verilog, VHDL].**

Awards

- ❖ **IEICE Best Paper Award for the Fiscal year 2015**, on the journal paper in the title “The Case for Network Coding for Collective Communication on HPC Interconnection Networks”.
- ❖ **5th Can Satellite Leader Training Program [Internship](#)** at Hokkaido University, Sapporo, Hokkaido, Japan, 2014.
- ❖ **IEEE Region 8 Young Professionals Exceptional Volunteer Award, [2016](#).**
- ❖ **SySDSoft Employee of The Month Award, September 2008.**
- ❖ **IEEE Outstanding Activity Award, 2005.**
- ❖ **IEEE Outstanding Leadership Award, 2003.**

Activities & Services

- **Organization Committee of Japan-Africa Conference on ECC (2015-2017).**
- **Organization Committee of International Conference of Computing and Informatics Conference (2019).**
- **Academic Advisor - IEEE Alexandria Student Branch (2011 - Now).**
- **Judge in Intel Science Engineering Fair (ISEF 2015 - 2016).**
- **Egyptian Engineering Day Chair (2015 - [Closing](#)).**
- **E-JUST Postgraduate Student Union Chairperson (2011-2012).**
- **E-JUST Alumni Committee member (2014-2015).**
- **IEEE Volunteer (2002 - 2017).**

References

Prof. Dr. Li Shiuan Peh

School of Computing, National University of Singapore.

- Email: peh@nus.edu.sg

Prof. Dr. Hossam Shalaby

Egypt-Japan University of Science and Technology (E-JUST).

- Email: shalaby@ieee.org

Prof. Dr. Koibuchi Michihiro

National Institute of Informatics, Tokyo, Japan.

- Email: koibuchi@nii.ac.jp