Samar E. Hadou

PhD candidate, University of Pennsylvania
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Research Interests

Signal processing, Machine learning, Optimization, Statistics

Education

PhD in Electrical Engineering (2025), *University of Pennsylvania*
Advisor: Prof. Alejandro Ribeiro

M.Sc. in Electrical Engineering (2017), *Port Said University, Egypt*
Thesis: Joint Angular Estimation and Wideband Spectrum Sensing

B.Sc. in Electrical Engineering (2011), *Port Said University, Egypt*
Distinction with degree of honor (First class)

Research Experience

2020—Now **PhD Fellow,** *Department of Electrical and Systems Engineering*
University of Pennsylvania

2016—2020 **Research Fellow,** *Electrical Engineering Department*
Port Said University, Egypt

Teaching Experience

2012—2019 **Lecturer Assistant,** *Electrical Engineering Department*
Port Said University, Egypt

Research Grants

2019—2020 **ITIDA Governmental fund,** "Deep learning-based resolution enhancement of miniaturized FTIR spectrometers," Proposal co-authorship, Egypt.

Honors & Awards

PhD Dean's Fellowship, *University of Pennsylvania* **2020**
Bruce Ford Memorial Fellowship, *University of Pennsylvania* **2020**
Governmental grant for pursuing M.Sc. and PhD degrees in Electrical Engineering **2013**
Tenure academic position with the Faculty of Engineering, *Port Said University* **2012**
Ranked 1st, Electrical Engineering, Faculty of Engineering, *Port Said University* **2011**

Professional Service & Memberships

- **Journal Reviewing:** IEEE Access (2019)
- **Professional Memberships:** IEEE Student Member, IEEE Signal Processing Society Member

Publications[1]

Pre-print

[U1] **S. Hadou,** C. Kanatsoulis, A Ribeiro. *Space-time Graph Neural Networks, 2021.*

[U2] **S. Elaraby** and S. Abuelenin. *Fading improves connectivity in vehicular ad-hoc networks*, 2019.

Journals

[J1] **S. Elaraby**, S. Abuelenin, A. Moussa, and Y. Sabry. *Deep Learning on synthesized sensor characteristics and transmission spectra enabling MEMS-based spectroscopic gas analysis beyond the Fourier transform limit.* Accepted to a special issue on Foundations, Dec. 2021.

[J2] S. Abuelenin and **S. Elaraby**. *A generalized framework for connectivity analysis in vehicle-to-vehicle communications*. IEEE Transactions on Intelligent Transportation Systems, Jan. 2021.

[J3] **S. Elaraby** and S. Abuelenin. *Connectivity analysis of directed highway vehicular ad hoc networks using graph theory.* Int. Journal of Communication Systems, vol. 34, no. 5, 2021.

[J4] **S. Elaraby**, H. Soliman, H. Abdel-Atty, and M. Mohamed. *Joint angular and spectral estimation technique using nonlinear Kalman filters for cognitive radio.* AEU Int. Journal of Electronics and Communications, vol. 83C, pp. 359-365, 2018.

[J5] **S. Elaraby**, H. Soliman, H. Abdel-Atty, and M. Mohamed. *Joint 2D-DOA and carrier frequency estimation technique using nonlinear Kalman filters for cognitive radio.* IEEE Access, vol. 5, pp. 25097-25109, 2017.

Conference Papers

[C1] **S. Elaraby**, Y. Sabry and S. Abuelenin. *Superresolution Infrared spectroscopy for gas analysis using convolutional neural networks*. Proc. of SPIE Optical Engineering, Applications of Machine Learning, vol. 11511, pp. 115110W, Aug. 2020.

[1] Published under the name **Samar Elaraby** till joining the University of Pennsylvania in 2020.