

Samar E. Hadou

PhD candidate, University of Pennsylvania
3401 Walnut St., Philadelphia, PA 19104, USA
www.smrhadou.github.io

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

Professional Service & Memberships

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

Publications¹

Pre-print

- [U1] **S. Hadou**, C. Kanatsoulis, A Ribeiro. *Space-time Graph Neural Networks*, 2021.
- [U2] **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*. Under review.
- [U3] **S. Elaraby** and S. M. Abuelenin. *Fading improves connectivity in vehicular ad-hoc networks*, 2019.

Journals

- [J1] S. M. Abuelenin and **S. Elaraby**. *A generalized framework for connectivity analysis in vehicle-to-vehicle communications*. IEEE Transactions on Intelligent Transportation Systems, Jan. 2021.
- [J2] **S. Elaraby** and S. M. Abuelenin. *Connectivity analysis of directed highway vehicular ad hoc networks using graph theory*. Int. Journal of Communication Systems, vol. 34, no. 5, 2021.
- [J3] **S. Elaraby**, H. Y. Soliman, H. M. Abdel-Atty, and M. A. 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.
- [J4] **S. Elaraby**, H. Y. Soliman, H. M. Abdel-Atty, and M. A. 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. M. Sabry and S. M. 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.