Spyridon (Spyros) Peppas

Electrical & Computer Engineering Ph.D. student
University of Virginia

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Education

University of Virginia (UVA), *Charlottesville, VA* — Aug 2022 – present
PhD in Electrical and Computer Engineering
Advisor: Nicholas D. Sidiropoulos

Technical University of Crete (TUC), *Chania, Greece* — Mar 2016 – Oct 2021
MEng in Electrical and Computer Engineering
Advisor: Aggelos Bletsas
Grade: 8.33/10
Magna cum laude

Research Interests

Wireless Communications, Localization, Subspace Methods

Academic Research Experience

University of Virginia — Aug 2022 – present

- Developing interference-resilient algorithms for enhanced signal detection and synchronization in wireless communication systems.

Technical University of Crete — Dec 2020 – Oct 2021

- Developed a battery-less Reconfigurable Intelligent Surface (RIS) using RFID technology.
- Employed Compressive Sensing (CS) and probabilistic models for accurate indoor RF localization.

Internships

Electrical and Computer Engineering Intern — Jul 2019 – Jul 2019
Telecommunication Systems Research Institute, TUC

- Applied synchronization, channel estimation, and detection techniques alongside Alamouti's space-time block coding in wireless communications.
- Designed and implemented a wireless communication system using Software Defined Radios (SDRs) with two transmitters and one receiver in Matlab.

Journal Publications

[J1] I. Vardakis, G. Kotridis, **S. Peppas**, K. Skyvalakis, G. Vougioukas, A. Bletsas, "Intelligently Wireless Batteryless RF-Powered Reconfigurable Surface: Theory, Implementation & Limitations," *IEEE Transactions on Wireless Communications*, vol. 20, no. 8, pp. 1200-1215, Aug. 2021.

Conference Publications

[C1] **S. Peppas**, N. D. Sidiropoulos, "Binary Signal Alignment: Optimal Solution is Polynomial-time and Linear-time Solution is Quasi-Optimal," in *Proc. IEEE Int. Conf. Acoust. Speech Signal Process. (ICASSP)*, 2024.

[C2] **S. Peppas**, P. A. Karakasis, N. D. Sidiropoulos, and D. Cabric, "Harnessing the Power of Repetition Structure in Ultra-Narrowband IoT," in *Proc. IEEE Workshop on Signal Process. Advances in Wireless Commun. (SPAWC)*, 2023.

[C3] **S. Peppas**, E. Giannelos, G. Vougioukas, A. Bletsas, "Where is the Wall? Radar Imaging-Based Narrowband RFID and Reflector Localization" *in Proc. IEEE Int. Conf. on RFID*, 2022.

[C4] I. Vardakis, G. Kotridis, **S. Peppas**, K. Skyvalakis, G. Vougioukas, A. Bletsas, "Intelligently Wireless Batteryless RF-Powered Reconfigurable Surface" in *Proc. IEEE Global Commun. Conf. (Globecom)*, 2021.

Magazine Publications

[M1] I. Vardakis, G. Kotridis, **S. Peppas**, K. Skyvalakis, G. Vougioukas, A. Bletsas, "Scanning the Literature," *IEEE Wireless Communications*, vol. 30, no. 5, pp. 12-18, Oct. 2023.

Teaching Assistantship

ECE 6711 (Probability & Stochastic Processes) Fall '23
University of Virginia

Scholarships & Fellowships

Gerondelis Foundation Graduate Study Scholarship ($5, 000) Nov 2023
Gerondelis Foundation

Societies & Affiliations

IEEE TUC Student Branch Oct 2018 – Oct 2021

Skills

Technical Skills	Matlab, Python, PyTorch, C, GNU Radio, LaTeX
Languages	English, Greek
Miscellaneous	Kayaking