

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](#)
Grade: 3.9/4

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

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

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- [J1] **S. Peppas**, P. A. Karakasis, N. D. Sidiropoulos, and D. Cabric, "Signal Alignment in Frequency-hopped IoT Networks," accepted in *IEEE Transactions on Wireless Communications*, 2024.
- [J2] **S. Peppas**, N. Razavi, N. D. Sidiropoulos, "Broadband Signal Alignment for Interference Resilient Multicarrier Communication," accepted in *IEEE Wireless Communications Letters*, 2024.
- [J3] I. Vardakis, G. Kotridis, **S. Peppas**, K. Skyvalakis, G. Vougioukas, A. Bletsas, "Intelligently Wireless Batteryless RF-Powered Reconfigurable Surface: Theory, Implementation & Limitations," accepted in *IEEE Transactions on Wireless Communications*, 2022.

Conference Publications

- [C1] **S. Peppas**, N. D. Sidiropoulos, “Adaptive Canonical Correlation Analysis with Application to Time Synchronization for Signal Alignment,” accepted in *Proc. IEEE Int. Conf. Acoust. Speech Signal Process. (ICASSP)*, 2025.
- [C2] N. Razavi, **S. Peppas**, P.A. Karakasis, N. D. Sidiropoulos, “Multiview Analog FM Radio Underlay,” accepted in *Proc. IEEE Asilomar Conf. on Signals, Systems and Computers*, 2024, to appear.
- [C3] **S. Peppas**, N. D. Sidiropoulos, “Binary Signal Alignment: Optimal Solution is Polynomial-time and Linear-time Solution is Quasi-Optimal,” accepted in *Proc. IEEE Int. Conf. Acoust. Speech Signal Process. (ICASSP)*, 2024.
- [C4] **S. Peppas**, P. A. Karakasis, N. D. Sidiropoulos, and D. Cabric, “Harnessing the Power of Repetition Structure in Ultra-Narrowband IoT,” accepted in *Proc. IEEE Workshop on Signal Process. Advances in Wireless Commun. (SPAWC)*, 2023.
- [C5] **S. Peppas**, E. Giannelos, G. Vougioukas, A. Bletsas, “Where is the Wall? Radar Imaging-Based Narrowband RFID and Reflector Localization” accepted in *Proc. IEEE Int. Conf. on RFID*, 2022.
- [C6] I. Vardakis, G. Kotridis, **S. Peppas**, K. Skyvalakis, G. Vougioukas, A. Bletsas, “Intelligently Wireless Batteryless RF-Powered Reconfigurable Surface” accepted 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) University of Virginia	Fall '23
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Scholarships & Fellowships

Gerondelis Foundation Graduate Study Scholarship (\$5, 000) Gerondelis Foundation	Nov 2023
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Societies & Affiliations

IEEE TUC Student Branch	Oct 2018 – Oct 2021
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Skills

Technical Skills	Matlab, Python, PyTorch, C, GNU Radio, L ^A T _E X
Languages	English, Greek
Miscellaneous	Kayaking