Nikos Kargas

Curriculum Vitæ

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Education

2015–present **Ph.D. in Electrical Engineering**, *University of Minnesota*, Minneapolis MN.
PhD Advisor: Prof. Nikolaos Sidiropoulos.

July 2015 **Master of Science**, *Technical University of Crete*, Chania, Greece.
Thesis: SDR Readers for Gen2 RFID and Backscatter Sensor Networks.
MSc Advisor: Associate Prof. Aggelos Bletsas.

August 2013 **Diploma of Engineering**, *Technical University of Crete*, Chania, Greece.
Thesis: Robust Localization for the RoboCup Standard Platform League.
Thesis Supervisor: Associate Prof. Michail G. Lagoudakis.

Research Interests

- Matrix/Tensor Factorization Models
- Machine Learning
- Optimization

Experience

2015-Now **Research Assistant**, *University of Minnesota*.
Latent Variable Modeling using Tensor Factorization.

2013-2015 **Research Assistant**, *Technical University of Crete*.
ERC-04-BLASE Research Project:
"Backscatter Networks for Large-Scale Environmental Sensing".

Fall 2014 **Teaching Assistant**, *Technical University of Crete*.
Analysis & Design (Synthesis) of Telecom Modules.

Spring 2013 **Teaching Assistant**, *Technical University of Crete*.
Telecommunication Systems II.

Publications

Journals

[J2] **N. Kargas**, N.D. Sidiropoulos, and X. Fu, "Tensors, Learning, and 'Kolmogorov Extension' for Finite-alphabet Random Vectors", arXiv preprint arXiv:1712.00205 (2017) (submitted).

[J1] **N. Kargas**, F. Mavromatis and A. Bletsas, "Fully-Coherent Reader with Commodity SDR for Gen2 FM0 and Computational RFID", IEEE Wireless Communications Letters (WCL), Vol. 4, No. 6, pp. 617-620, Dec. 2015.

Conference Publications

[C5] B. Yaman, S. Weingartner, **N. Kargas**, N.D. Sidiropoulos, and Mehmet Akcakaya, "Locally Low-Rank Tensor Regularization for High-Resolution Quantitative Dynamic MRI", in Proc. IEEE CAMSAP, Dec. 2017

[C4] **N. Kargas**, S. Weingartner, N.D. Sidiropoulos, and M. Akcakaya, "Low-Rank Tensor Regularization for Improved Dynamic Quantitative Magnetic Resonance Imaging", in Proc. SPARS, June 2017.

[C3] **N. Kargas** and N.D. Sidiropoulos, "Completing a Joint PMF from Projections: a Low-rank Coupled Tensor Factorization Approach", in Proc. IEEE ITA, Feb. 2017.

[C2] P. N. Alevizos, N. Fasarakis-Hilliard, K. Tountas, N. Agadakos, **N. Kargas** and A. Bletsas. "Channel Coding for Increased Range Bistatic Backscatter Radio: Experimental Results", in *IEEE RFID-TA*, Sept. 2014.

[C1] **N. Kargas**, N. Kofinas, E. Michelioudakis, N. Pavlakis, S. Piperakis, N. I. Spanoudakis, M. G. Lagoudakis. "Kouretes 2013 SPL Team Description Paper", *e-Proceedings of the 17th RoboCup International Symposium*, June 2013.

Technical Skills

- **Programming**: C/C++, Java, Python, MapReduce (Hadoop), Assembly, VHDL.
- **Embedded Systems**: MCU (Silabs 8051), Software Defined Radio (NI USRP).
- **Environments and Tools**: Git, Mathworks MATLAB, Microsoft Visual Studio, Eclipse IDE.

Software

- Gen2 UHF RFID Reader, developed in the context of my MSc thesis: https://github.com/nikosl21/Gen2-UHF-RFID-Reader

Graduate Coursework

University of Minnesota

Probability and Stochastic Processes, *Computational Aspects of Matrix Theory*, *Introduction to Nonlinear Optimization*, *Optimization Theory*, *Tensor Decomposition for Signal Processing and Machine Learning*, *Stochastic Processes and Queuing Systems*, *Advanced Algorithms and Data Structures*, *Detection and Estimation Theory*, *Introduction to Data Mining*, *Optimization*.

Technical University of Crete

Detection and Estimation Theory, *Advanced Topics in Convex Optimization*, *Processing and Analyzing Big Data* (audit), *Machine Learning*, *Probabilistic Graphical Models & Inference Algorithms*.

Languages

- English Excellent. Michigan Certificate of Proficiency in English.
- German Good. Goethe-Institut Zertifikat B1.
- Greek Native Speaker