

PANAGIOTIS SKRIMPONIS

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RESEARCH INTERESTS

Prototype systems using advanced FPGA/SDR platforms; Machine learning for novel communications systems; Power/performance optimizations for future communication circuits and systems.

EDUCATION

- 2019 – Present
Brooklyn, NY **New York University**, Tandon School of Engineering
Ph.D. in Electrical and Computer Engineering (3rd year)
- 2019
New York, NY **Columbia University**, School of Engineering and Applied Science
Non-Degree Special Program
- 2015 – 2018
Volos, Greece **University of Thessaly**, School of Engineering
Master in the Science and Technology of Electrical and Computer Engineering
- 2010 – 2015
Volos, Greece **University of Thessaly**, School of Engineering
Diploma of Computer, Communication and Network Engineering, Ranked 9th

COURSEWORK

- NYU Probability and Stochastic Processes; Internet Architecture & Protocols; Digital Communications; Digital Signal Processing I; Wireless Communications; Information Theory; Scientific Computing; Machine Learning; Deep Learning
- Columbia Univ. Principles of RF and Microwave Measurements

SELECTED PUBLICATIONS

- [J1] **P. Skrimponis**, N. Hosseinzadeh, A. Khalili, E. Erkip, M. Rodwell, J. Buckwalter, and S. Rangan, “Towards Energy Efficient Mobile Wireless Receivers Above 100 GHz,” in IEEE ACCESS’20
- [C1] **P. Skrimponis**, S. Dutta, M. Mezzavilla, S. Rangan, S. H. Mirfarshbafan, C. Studer, J. Buckwalter, and M. Rodwell, “Power Consumption Analysis for Mobile MmWave and Sub-THz Receivers,” in Proc. 2nd IEEE 6G Wireless Summit (6G SUMMIT), 2020

PROFESSIONAL EXPERIENCE

- 2021 – Now
Richardson, TX **Qualcomm Technologies, Inc.**
Machine Learning for RFIC Intern
- 2020
Brooklyn, NY **Pi-Radio**
FPGA/SDR Research Intern
- 2019 – Now
Brooklyn, NY **NYU WIRELESS**
Hardware/Wireless Research Assistant
- 2013 – 2018
Volos, GR **Centre for Research and Technology Hellas (CERTH)**
Hardware/Wireless Research Assistant
- 2015
Lausanne, CH **Swiss Federal Institute of Technology in Lausanne (EPFL)**
Hardware Research Intern

PROFESSIONAL SKILL

- Software Skill
- C, C++, MATLAB, Python, and Bash
 - Intel SIMD, Posix/C++ Threads, OpenMP, and MATLAB Parallel Toolbox
 - Tensorflow, Keras, PyTorch, git, GNU Radio, VTune, and Unity
- Hardware Skill
- Verilog and HLS (i.e., C/C++, System Generator)
 - Xilinx software (i.e., Vivado HLx, Vitis), ModelSim, and PCB design (i.e., ADS, Eagle)
- Platforms
- Xilinx FPGAs (i.e., Virtex, RFSoc), and Software Defined Radios (i.e., NI USRPs)

SCHOLARSHIPS & AWARDS

- 2019 – Present
- Ph.D. scholarship for tuition/research position at NYU WIRELESS by Prof. Sundeep Rangan
 - SRC Research Scholar Program
 - “NSF Intern Award” for conducting a 6-month research internship at Pi-Radio
 - **Award nomination** at the Mobile World Congress 2020 GLOMO awards
 - **Best presentation/demo award** at the NE-ASTE 2019 conference
 - **AT&T scholarship** for supporting middle/high-school students and teachers
 - Winners of the **Verizon 5G EdTech Challenge**
- 2013 – 2018
Scholarship for tuition/research position at CERTH by Prof. Korakis and Prof. Leandros Tassioulas
- 2015
Scholarship for research internship at EPFL by Prof. Paolo Ienne

SELECTED PROJECTS

- 2021 **Qualcomm Technologies, Inc.**
Optimize a chip calibration process using machine learning and heuristic algorithms.
- 2020 **Pi-Radio**
Develop open-source implementations based on a Xilinx Zynq Ultrascale+ RFSoc platform and the Pi-Radio 60 GHz fully-digital RF front-end.
- 2019 – Now **ComSenTer**
This project aims to develop wireless communications systems with unprecedented data capacity in the 100 to 1000 GHz frequency band.
- Contribute to the development of a 140 GHz SDR.
 - Explore energy efficient solutions for mmWave/THz communication circuits and systems
 - Develop an open-source mmWave/THz link-layer MATLAB package ([mmwComm](#)). Use accurate models for the RF components and fixed-point baseband processing.
 - Use machine learning to alleviate the non-linear distortion of the receiver RF front-end
 - Publications: [ASILOMAR'20](#), [IEEE ACCESS'20](#), [6G SUMMIT'20](#).
- 2019 – Now **Verizon Innovative Learning**
This project aims to bridge the digital and equity divide by designing the next generation of K-12 educational activities.
- Our team, [5G COVET](#), leverages VR and 5G technologies to increase student engagement and participation. We focus on teaching fundamental STEM concepts through interactive and collaborative experiments.
- 2018 – Now **COSMOS**
The project aims to design and deploy a city-scale advanced wireless testbed to support real-world experimentation on next-generation wireless technologies and applications.
- Design interactive problem-based STEM learning experiences for middle/high school students and teachers using experimental wireless networking.
 - Develop tutorials/demos using mmWave arrays, advanced FPGA platforms, and USRP.
 - Develop a custom SDR based on the Xilinx RFSoc ZCU111 platform with real-time and non-real-time drivers.
 - Publications: [MobiCom'21](#), [MobiCom'20](#), [SIGCOMM'20](#), [ASEE'20](#).
- 2016 – 2018 **dRedBox**
This project aims to disaggregate the resources of a data center (i.e., CPU, memory, and accelerator) to achieve maximum utilization.
- Design the architecture of the accelerator brick. Use a generic deployment framework that introduces various degrees of flexibility in reconfiguring at run time and orchestrating fine-grained accelerator cores on the reconfigurable fabric of a remote node.
 - Publications: [FPT'18](#), [PARCO'19](#), [FPGA'20](#).

RECOMMENDATIONS

Ph.D. Advisor	Sundeep Rangan, New York University, srangan@nyu.edu
Prof/Employer	Thanasis Korakis, New York University, korakis@nyu.edu
Prof/Employer	Leandros Tassiulas, Yale, leandros.tassiulas@yale.edu