

Nikolaos Mastorakis

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OBJECTIVE

Ph.D. student in Electrical and Computer Engineering with strong expertise in FPGA design, hardware security, and fault-tolerant embedded systems. Interested in research on Physical Unclonable Functions (PUFs), secure hardware architectures, and resilient FPGA-based cyber-physical systems.

EDUCATION

Ph.D. in Electrical and Computer Engineering

ARIZONA STATE UNIVERSITY

Tempe, AZ, USA | Aug 2025 – Present

RESEARCH FOCUS: HARDWARE SECURITY, PHYSICAL UNCLONABLE FUNCTIONS (PUFs), SECURE AND RELIABLE FPGA-BASED SYSTEMS

Integrated Master of Electrical and Computer Engineering (MEng ECE)

Athens, Greece | Oct 2015 - Jun 2022

NATIONAL TECHNICAL UNIVERSITY OF ATHENS

Coursework: Digital VLSI Systems, Communication Networks, Design of Analog Microelectronic Circuits, Stochastic Systems and Communications, Operating Systems, Advanced Topics in Computer Architecture, Neural Networks and Intelligent Systems, Robotics, Design of Analog Electronics Systems, Embedded System Design.

Thesis: Multi-Error Mitigation Techniques on SoC FPGAs for Improved Fault Tolerance.

WORK EXPERIENCE

SOFTWARE COMPETITIVENESS INTERNATIONAL S.A. | SENIOR EMBEDDED SOFTWARE ENGINEER Athens, Greece | Sept 2021 – Jul 2025

- Lead HQoS Analysis, Development, and Testing, contributing to critical telecommunications software for global clients, achieving new features and functionality.
- Act as the go-to expert for troubleshooting and resolving complex system issues.
- Mentor and train colleagues through knowledge-sharing sessions for internal teams.
- Coordinate incremental planning cycles (3 months), managing workload distribution across the team to ensure timely delivery and quality outcomes.
- Apply embedded systems knowledge to optimize system performance and integrate advanced features into customer solutions.

NATIONAL TECHNICAL UNIVERSITY OF ATHENS | ECE-NTUA MICROLAB

Athens, Greece | Mar 2020 - Jun 2022

- Designed and implemented multi-error mitigation architectures on SoC FPGAs, enhancing fault tolerance for space systems.
- **Co-Author** : Combining Fault Tolerance Techniques and COTS SoC Accelerators for Payload Processing in Space.
- Developed expertise in FPGA Design, Verilog, and hardware optimization for advanced research applications.

HELLENIC GREEK ARMY | SOFTWARE ENGINEER

Athens, Greece | Nov 2020 – Jul 2021

- Assistant in First Office of 401st Army Hospital. Responsible for IT maintenance of the Office.

FASMATECH | SOFTWARE ENGINEER INTERN

NCSR Demokritos, Greece | Sept 2019 – November 2019

- Developed algorithms for mass spectrometry in digital signal processing, focusing on spectral analysis.

AWARDS

30TH IFIP/IEEE VLSI-SOC |

Patras, Greece | Oct 2022

- Co-Author in Best paper award in 30th IFIP/IEEE VLSI-Soc

MOVING EDUCATION FORWARD | EUROBANK

Heraklion, Greece | Jul 2015

- Top graduate from high school

SKILLS

Programming & Tools C, C++, Python, Bash, Assembly, Verilog, VHDL, MATLAB, Cadence, Xilinx Vivado

Specialization: Embedded Programming, FPGA Design, Hardware Security, Embedded Systems Optimization, ASIC Synthesis

Languages: English – English (C2), Greek (Native), French (B1).

PROJECTS

FPGA-BASED MULTI-ERROR MITIGATION | NTUA MICROLAB

Athens, Greece | 2021

- Developed innovative fault-tolerance architectures on SoC FPGAs, enabling robust hardware design for critical systems.

FOREST FIRE MONITORING SYSTEM | ADVANTAGE AUSTRIA & IEEE NTUA STUDENT BRANCH HACKATHON Athens, Greece | 2018

- Designed IoT-based solution for real-time environmental monitoring, integrating cameras, sensors, and web-based controls. .

GOOGLE'S HASH CODE | 2018 & 2019

Athens, Greece |

- Participating in 2018 & 2019 Hash Code competition, top 20 score in Greece.

ADDITIONAL TRAINING

DUISBURG- ESSEN UNIVERSITY |

Duisburg, Germany | 2019

- Completed coursework on robotic systems control using advanced walking devices, supported by the DAAD Exchange Program.