

# Apostolos Kokolis

Email: [kokolis2@illinois.edu](mailto:kokolis2@illinois.edu) Phone: (M) +1 (217)-904-6659

## Research Interests

---

- Hybrid Memory Architectures & Non-volatile Memories.
- Computer architecture; variability-robust & power efficient systems.

## Education

---

**University of Illinois at Urbana-Champaign (UIUC), USA** **August 2016 – present**

*Ph.D - Computer Science*; expected graduation date 05/2021

Advisor: Prof. Josep Torrellas

Current GPA: 4.0/4.0

**National Technical University of Athens (NTUA), Athens, Greece** **Sep. 2010 – Oct. 2015**

*Diploma in Electrical and Computer Engineering, 5-year degree*

- GPA: 9.02/10 (distinction, ranked in the top 3% of students)
- Thesis: ‘*Mitigation of performance variability induced by Checkpoint-Restart using DVFS*’; Thesis supervisor: Prof. Dimitrios Soudris

## Publications

---

A. Kokolis, A. Mavrogiannis, D. Rodopoulos, C. Strydis, D. Soudris, ‘Runtime Interval Optimization and Dependable Performance for Application-Level Checkpointing’, in the proceedings of the *IEEE/ACM DATE 2016 Conference*.

## Research & Work Experience

---

**i-acoma group, UIUC, USA**

**Aug. 2016 – present**

*Ph.D Student - Research Assistant in Computer Architecture*

Advisor: Prof. Josep Torrellas

Current Project:

- Page Management in two level memory systems. Designing HW techniques for Page Migration & Replication between NVM and DRAM/HBM to improve performance and energy efficiency.

**imec Research Center, Leuven, Belgium**

**Jan.2016 –July 2016**

*Internship, ‘Fast simulation framework for evaluating the impact of device reliability on future CMOS technology nodes’*

Supervisors: Prof. Francky Catthoor, Dr. Praveen Raghavan and Dr. Ben Kaczer

- Enhancing the performance of BTI-aware digital design flow combining commercial timing closure tools (Synopsys NanoTime/PrimeTime) and in-house reliability models

**Microprocessors and Digital Systems Lab, NTUA, Greece**

**Sep. 2014 – Dec. 2015**

*Lab, Research & Teaching Assistant*

- Contributed to FP7-612069 HARPA European Commission project as part of my thesis by developing a runtime dependability and performance manager orchestrating an application-level Checkpoint/Restart procedure
- Assisted with teaching for the lab sessions of the following courses: ‘Microprocessors Laboratory’, ‘Embedded System Design’

### **Selected Projects**

- Dynamic application monitoring and resource management of multiprocessor systems to alleviate performance variation caused by reliability threats using control theory principles.(Python & C)
- Benchmarking using Sniper Multi-Core Simulator for the evaluation of a system’s performance for the following projects:
  - Analysis of the different HW parameters that can enhance the execution speed of Machine Learning applications. (C)
  - Analysis of the important characteristics of superscalar, out-of-order processors with parametrized memory hierarchy and with different branch predictors. (C & C++)
- Application implementing auctions in a distributed system with multiple clients, guaranteeing concurrency and consistency. (Java)

### **Technical Skills**

---

- *Programming Languages:* C/C++, Python, Java, Perl , Matlab, Shell/Bash scripting, VHDL
- *Parallel & GPU Programming Models:* MPI, OpenMP, CUDA, Posix Threads
- *Development Tools:* SST, Simics, DRAMSim2, NVMain, Sniper Eclipse,GDB, git

### **Awards and Honors**

---

**ISCA Travel Grant**

**June 2017**

**Andrew and Shana Laursen Fellowship,UIUC, USA**

**Aug.2016 – May 2017**

Fellowship (\$10,740.06) to provide meaningful assistance in the recruitment of top graduate students to the Department of Computer Science

**Great Moment for Education Award, Eurobank Group, Greece**

**2010**

Award (\$1,135) for top ranking among Greek students in the nationwide university entrance exams

**Awards for academic excellence**

**2004-2010**

Hellenic Ministry of Education, all six high-school classes