# Apostolos Kokolis

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

## Research Interests

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

## 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*
*(BSc and MSc equivalent, 5-year joint degree)*

- GPA: 9.02/10 (distinction, ranked in the top 3% of students)
- Specialization: Computer Science
- Diploma 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 Projects:

- Page Management in two level memory systems, by investigating Page Migration & Replication techniques between NVM and DRAM/HBM for performance improvements
- Dynamic application monitoring and resource management of multiprocessor systems using control theory principles to alleviate performance variation caused by reliability threats

**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 Course Projects**
- Implementation of a Compiler for the COOL programming language. (C & C++, flex & bison, LLVM)
- 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

- *Software Engineering*:   Designing/Developing/Extending applications,
        Design Patterns, Software System Architectures

- *Development Tools*:     Eclipse, GDB, git, Xampp

- *Operating Systems*:      Linux, Windows

## Awards and Honors

**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