KARTHIK GANESAN

CONTACT
INFORMATION

Electrical and Computer Engineering
University of Toronto
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RESEARCH
INTERESTS

Computer Architecture, Intermittent Computing, Approximate Computing.

EDUCATION

University of Toronto

PhD. Candidate, Computer Engineering (expected Jan 2022)

- Dissertation Topic: Improving the energy efficiency of ultra low power processors using approximate computing.
- Advisor: Dr. Natalie Enright Jerger

MASc. in Computer Engineering, June 2018

- Dissertation Topic: SPORADIC: An Anytime Architecture for Intermittent Computing
- Advisor: Dr. Natalie Enright Jerger

University of Waterloo

BASc. in Computer Engineering, Jun 2011

PEER-REVIEWED
CONFERENCE
PUBLICATIONS

Karthik Ganesan, Joshua San Miguel and Natalie Enright Jerger, "The What's Next Intermittent Computing Architecture", in the *International Symposium on High-Performance Computer Architecture (HPCA) 2019 (To Appear)*.

Joshua San Miguel, **Karthik Ganesan**, Mario Badr, Steven Xia, Rose Li, Hsuan Hsiao and Natalie Enright Jerger, "The EH Model: Early Design Space Exploration of Intermittent Processor Architectures", in *International Symposium on Microarchitecture (MICRO) 2018*.

PEER-REVIEWED
JOURNAL
PUBLICATIONS

Joshua San Miguel, **Karthik Ganesan**, Mario Badr and Natalie Enright Jerger, "The EH Model: Analytical Exploration of Energy-Harvesting Architectures", *IEEE Computer Architecture Letters (CAL), vol. 17, no. 1, pp. 76-79, January-June 2018*.

NON
PEER-REVIEWED
PUBLICATIONS

Karthik Ganesan, Joshua San Miguel and Natalie Enright Jerger, "The What's Next Computing Architecture", *Workshop on Approximate Computing Across the Stack (WAX) 2018*.

TEACHING
EXPERIENCE

Winter	2019	Head teaching assistant, ECE 342 (Computer Organization)
Fall	2018	Teaching Assistant, ECE 241 (Digital Design)
Winter	2018	Head teaching assistant, ECE 342 (Computer Organization)
Fall	2017	Teaching Assistant, ECE 241 (Digital Design)

INDUSTRY
EXPERIENCE

Graphics Validation Lead   2011 – 2015
Advanced Micro Devices   Markham, ON

- Lead in the graphics validation team, testing and debugging state of the art x86 based System on a chip (APU) and Graphics ASICs (GPU).

- Assisted in pre-silicon planning and scoping of validation efforts, by understanding features of the SOC under test and developing test plans to fully validate the chip prior to tape-out.
- Coordinated both planning and text execution activities across a global engineering network, spanning several countries.

Software Developer (co-op)   2010
Qualcomm   San Diego, CA
- Assisted in software integration duties for the latest line of Qualcomm Chips.
- Aided the integration team is obtaining and maintaining the code-base from the various functional teams.

Hardware and Systems Developer (co-op)   2011 – 2015
ON Semiconductor   Markham, ON
- Assisted in software development for state of the art biomedical chip, using a custom ARM M3 Core.
- Developed sample programs to enable customers to quickly bring designs to market.

Chipset Marketing Engineer (co-op)   2007 – 2008
Advanced Micro Devices   Markham, ON
- Perform benchmarking and performance analysis on internal and competitor products
- Assemble PC systems and prepare systems for use in trade shows
- Assist partners in resolving issues with reference motherboards, in order to assist a timely launch of AMD based OEM platforms.

EXTRACURRICULAR ACTIVITIES

President   2018 – 2019
Electrical and Computer Engineering Graduate Students' Society
- Guide the overall focus of the Electrical and Computer Engineering Graduate Students' Society for the academic year.
- Liaise with the department and other external groups (e.g, career center, entrepreneurship hatchery) to plan events for graduate students.

Ambassador   2018 – 2019
Launch Lab - The Entrepreneurship Hatchery
- Work with the launch lab personal to promote the entrepreneurship hatchery to graduate students in engineering.
- Co-host launch lab events such as coffee breaks and info sessions to help advertise launch lab programs.

Treasurer   2017 – 2018
Electrical and Computer Engineering Graduate Students' Society
- Balance the books of the Electrical and Computer Engineering Graduate Students' Society for the academic year.
- Work with the president to determine budgeting for events and handle payments for events and reimbursements for members.