Mohamed Assem Ibrahim

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RESEARCH INTERESTS

My research interests lie in all aspects of computer architecture, including data-parallel architectures (e.g., GPUs), CPU-GPU heterogeneous architectures, and interconnection networks.

EDUCATION

- **College of William and Mary (W&M)** **Spring 2016 – Present**
  Ph.D. Candidate in Computer Science Department **Williamsburg, VA**
  GPA = 4

- **Cairo University (CU)** **Fall 2010 – Fall 2015**
  M.Sc. in Computer Engineering **Giza, Egypt**
  GPA = 4

- **Cairo University (CU)** **Fall 2005 – Spring 2010**
  B.Sc. (Hons.) in Computer Engineering **Giza, Egypt**
  GPA = 3.91 (Calculated with Foreign Credits GPA Calculator)

PROFESSIONAL EXPERIENCE

- **College of William and Mary (W&M)** **January 2016 – Present**
  Research Assistant **Williamsburg, VA**
  Advisor: Assistant Professor Adwait Jog
  My role is to conduct research related to Large-Scale GPU architectures.

- **Cairo University (CU)** **August 2010 – December 2015**
  Research Assistant **Giza, Egypt**
  Advisor: Professor Hatem El-Boghdadi
  My role was to conduct research related to Bufferless Network-on-Chip.

- **Nile University (NU)** **June 2012 – June 2013**
  Research Software Development Engineer (RSDE) **Giza, Egypt**
  Advisor: Associate Professor Tamer ElBatt
  My role was to conduct research and create functional prototypes related to predictive loading of content on mobile phones based on user modeling. The results of this work are published in ICC 2014 and MobiSys 2013.

- **Inmobly** **October 2011 – June 2013**
  Software Engineer **Giza, Egypt**
  Manager: Professor Hesham ElGamal
  Mentor: Associate Professor Nayer Wanas
  My role was to implement some of the required functionalities for several mobile applications. In *PAUL*, I implemented logging and reporting modules (for WiFi, content usage and battery), and scripts to analyze the logs and to build the user profile to correctly predict the different users' behavior. In *inFootball*, I implemented the news crawler and the handlers for the different client-side requests. In *Agenda25*, I implemented the BlackBerry version of the application.

AWARDS, GRANTS, and HONORS

- Graduate Assistantship, College of William and Mary, 2016

- Student Travel Grant for attending: ISCA 2015, HPCA 2017, MICRO 2017

- Arts & Sciences OGSR/Graduate Student Association Conference Funds

- Graudate Assistantship, Cairo University, 2010

- Best Graduation Project (Software Engineering Category), Egyptian Engineering Day (EED), IEEE GOLD, 2010

PUBLICATIONS

[**HPCA 2018**] Haonan Wang, Fan Luo, <u>Mohamed Ibrahim</u>, Onur Kayiran, Adwait Jog, *Efficient and Fair Multi-programming in GPUs via Pattern-based Effective Bandwidth Management*, In the Proceedings of 24th International Symposium on High-Performance Computer Architecture (HPCA), Vienna, Austria, February, 2018 ***Acceptance rate: 54/260 ≈ 20%***

[**AIM 2017**] Hengyu Zhao, Colin Weinshenker, <u>Mohamed Ibrahim</u>, Adwait Jog, Jishen Zhao, *Layer-wise Performance Bottleneck Analysis of Deep Neural Networks*, In the Proceedings of 1st International Workshop on Architectures for Intelligent Machine (AIM), Portland, Oregon, September, 2017

[**HPCA 2017**] Xulong Tang, Ashutosh Pattnaik, Huaipan Jiang, Onur Kayiran, Adwait Jog, Sreepathi Pai, <u>Mohamed Ibrahim</u>, Mahmut Kandemir, Chita Das, *Controlled Kernel Launch for Dynamic Parallelism in GPUs*, In the Proceedings of 23rd International Symposium on High-Performance Computer Architecture (HPCA), Austin, Texas, February, 2017 ***Acceptance rate: 50/224 ≈ 22%***

[**MES 2015**] <u>Mohamed Ibrahim</u>, Hatem M El-Boghdadi, *Investigating the Viability of Maximum Flexibility Selection Function in Bufferless 2D Meshes*, In the Proceedings of 3rd International Workshop on Many-core Embedded Systems (MES), Portland, Oregon, June, 2015

[**ICC 2014**] Omar Shoukry, <u>Mohamed Ibrahim</u>, John Tadrous, Hesham El Gamal, Tamer ElBatt, Nayer Wanas, Yaser Elnakieb, and Mohamed Khairy *Proactive Scheduling for Content Prefetching in Mobile Networks*, In the Proceedings of IEEE International Conference on Communications (ICC), Sydney, Australia, June, 2014 ***Acceptance rate: 995/2,608 ≈ 38%***

[**MobiSys 2013**] <u>Mohamed Ibrahim</u>, Omar Shoukry, Hesham El Gamal, Tamer ElBatt, Nayer Wanas, Mohamed Abdel Raouf, Mohamed Zakaria, Ahmed Abdel Kader and Hakem Zayed *PAUL Proactive Automated mobile User centric content deLivery*, In the Proceedings of 11th International Conference on Mobile Systems, Applications, and Services (MobiSys), Taipei, Taiwan, June, 2013

PAPERS UNDER SUBMISSION

[**HPCA 2018**] Haonan Wang, <u>Mohamed Ibrahim</u>, Sparsh Mittal, Adwait Jog, *ASAP: Address-Stride Assisted Approximate Value Predictor for GPUs*

TECHNICAL STRENGTHS

- **Programming** C/C++, Java, Python, OpenMP, MPI, MATLAB
- **Tools** GPGPU-Sim, gem5, SimpleScalar

TEACHING EXPERIENCE

- **Teaching Assistant@W&M**, CS 421, Database Systems — **Spring 2017**
- **Teaching Assistant@W&M**, CS 424/524, Computer Architecture — **Fall 2016**
- **Teaching Assistant@W&M**, CS 421, Database Systems — **Spring 2016**
- **Teaching Assistant@W&M**, CS 131, Concepts of Computer Science — **Spring 2016**

REFERENCES

- **Adwait Jog**
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  Email: adwait@cs.wm.edu
  Contact Number: +1-757-221-1434