

Ahmed S. Kaseb

ahmed@akaseb.com ◇ www.akaseb.com

Education

Doctor of Philosophy in Computer Engineering Dec. 2016

Purdue University, West Lafayette, IN, USA

- Dissertation Title: *A Cost-Effective Cloud-Based System for Analyzing Big Real-Time Visual Data from Thousands of Network Cameras*
- Advisor: Prof. Yung-Hsiang Lu

Master of Science in Computer Engineering Aug. 2013

Cairo University, Giza, Egypt

- Thesis Title: *A GPU-Based Accurate Stereo Matching Algorithm*
- Advisor: Prof. Elsayed Hemayed

Bachelor of Computer Engineering May 2010

Cairo University, Giza, Egypt

Experience

Assistant Professor of Computer Engineering Jan. 2017 - Present

Computer Engineering Department, Faculty of Engineering, Cairo University, Giza, Egypt

- Teaching big data analytics, software engineering, and computer networks

Graduate Research Assistant Sept. 2013 - Dec. 2016

School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, USA

- Built a cloud-based system to analyze real-time streams from 120,000 cameras (cam2project.net)
- Designed and developed the system's backend using Amazon EC2 and Microsoft Azure

Machine Learning Software Intern May - Aug. 2015, May - Sept. 2016

NVIDIA, Santa Clara, CA, USA

- Built a distributed system that uses GPUs to enable users to design, train, and test deep neural networks
- Built a pipeline to track large amounts of visual data for autonomous vehicle and surveillance applications

Independent Software Developer June - Sept. 2013

TopCoder

- Developed iOS mobile applications for NASA and the Centers for Medicare & Medicaid Services

Teaching Assistant June 2010 - Aug. 2013

Computer Engineering Department, Faculty of Engineering, Cairo University, Giza, Egypt

- Assisted in teaching many courses, e.g., algorithms, image processing, databases, and operating systems

Entrepreneurship Trainer Aug. 2012 - Jan. 2013

International Labour Organization, Cairo, Egypt

- Lectured and trained college students about entrepreneurship in the Know About Business program

Undergraduate Research Assistant July - Aug. 2009

Otto-von-Guericke University Magdeburg, Magdeburg, Germany

- Developed ultrasonic radar applications on the ATmega32 microcontroller

Selected Publications

A. Mohan, **A. S. Kaseb**, Y.-H. Lu, and T. J. Hacker, "Adaptive Resource Management for Analyzing Video Streams from Globally Distributed Network Cameras," *IEEE Transactions on Cloud Computing*, 2018.

A. S. Kaseb, B. Fu, A. Mohan, Y.-H. Lu, A. Reibman, and G. K. Thiruvathukal, "Analyzing Real-Time Multimedia Content From Network Cameras Using CPUs and GPUs in the Cloud," *IEEE Conference on Multimedia Information Processing and Retrieval*, 2018.

A. Mohan, **A. S. Kaseb**, K. W. Gauen, Y.-H. Lu, A. R. Reibman, and T. J. Hacker, "Determining the Necessary Frame Rate of Video Data for Object Tracking under Accuracy Constraints," *IEEE Conference on Multimedia Information Processing and Retrieval*, 2018.

A. S. Kaseb, A. Mohan, Y. Koh, and Y.-H. Lu, "Cloud Resource Management for Analyzing Big Real-Time Visual Data from Network Cameras," *IEEE Transactions on Cloud Computing*, 2017.

A. Mohan, **A. S. Kaseb**, Y.-H. Lu, and T. J. Hacker, "Location Based Cloud Resource Management for Analyzing Real-Time Videos from Globally Distributed Network Cameras," *IEEE International Conference on Cloud Computing Technology and Science*, 2016.

A. S. Kaseb, A. Mohan, and Y.-H. Lu, "Cloud Resource Management for Image and Video Analysis of Big Data from Network Cameras," *International Conference on Cloud Computing and Big Data*, 2015. **Best Paper Award**.

A. S. Kaseb, Y. Koh, E. Berry, K. McNulty, Y.-H. Lu, and E. J. Delp, "Multimedia Content Creation using Global Network Cameras: The Making of CAM²," *IEEE Global Conference on Signal and Information Processing*, 2015.

A. S. Kaseb, E. Berry, E. Rozolis, K. McNulty, S. Bontrager, Y. Koh, Y.-H. Lu, and E. J. Delp, "An Interactive Web-Based System Using Cloud for Large-Scale Visual Analytics," *IS&T/SPIE Conference on Imaging and Multimedia Analytics in a Web and Mobile World*, 2015.

A. S. Kaseb, W. Chen, G. Gingade, and Y.-H. Lu, "Worldview and Route Planning using Live Public Cameras," *IS&T/SPIE Conference on Imaging and Multimedia Analytics in a Web and Mobile World*, 2015.

A. S. Kaseb, E. Berry, Y. Koh, A. Mohan, W. Chen, H. Li, Y.-H. Lu, and E. J. Delp, "A System for Large-Scale Analysis of Distributed Cameras," *IEEE Global Conference on Signal and Information Processing*, 2014.

Awards

Best Paper Award, International Conference on Cloud Computing and Big Data 2015

Second Place in Schurz Innovation Challenge, Schurz Communications Inc. 2014

· Designed and developed an Android mobile application that enables users to watch the world and plan their routes through thousands of online public cameras

RCA Zworykin Scholarship, Purdue University 2013

Mohamed Farid Khamis Foundation College Scholarship 2005 - 2010

· Earned a merit-based scholarship covering Cairo University tuition and fees and a monthly stipend, due to ranking 9th nationwide in the secondary education, math section

Cairo University Ideal Student (out of 250,000 students) 2007 - 2008

Leadership

Collaborative Project Lead, Purdue University and National University of Singapore 2014

· Led a collaborative project about large-scale analysis of distributed cameras

Class Representative and Coordinator, Cairo University 2006 - 2010

Egyptian Students Representative in Germany and France, Cairo University 2009

· Represented the students in the European Union-funded project: Cairo University E-Learning Center

Head of the Organization Committee of the First Year Students Conference, Cairo University 2007