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shaseley

Scott Haseley

Education

2015–Present **Ph.D. student in Computer Science**, *University at Buffalo*.
Advised by Geoffrey Challen.

2014 **M.S. in Computer Science**, *University at Buffalo*, *4.0 GPA*.
Masters Project: *Terminus: Using discarded smartphones as a distributed, physical intrusion detection system.*
Supervised by Murat Demirbas.

2014 **B.S. in Computer Science**, *University at Buffalo*, *magna cum laude*.

2004 **B.S. in Mathematics**, *University at Buffalo*, *magna cum laude*.

Research Interests and Projects

I am generally interested in *building and improving large systems*, and am currently involved in several research projects in the areas of *mobile smartphone quality of experience, and resource management*. An up-to-date and detailed list of my current and past projects can be found at www.bluegroup.systems/people/shaseley.

Current Projects

2015-Present **Improving Smartphone Quality of Experience**, *Leading*.
Abstract. Surprisingly, few resource management decisions on mobile smartphones are made with QoE in mind. Threads are scheduled, memory is allocated, data is stored and transmitted to other devices, but without any consideration of how these operations related to what is on screen and the overall QoE. Our goal is to change this by quantifying QoE and then using it to prioritize resource management decision–both on a single device and across the network. Currently, we are exploring measuring QoE by using the device sreen as a sensor—processing the graphics framebuffer and touch input streams to infer QoE information.

2016-Present **Improving Smartphone Thermal Management**, *Supporting*.
Abstract. Smartphone battery consumption remains a top concern of smartphone users and a critical constraint limiting the effectiveness of adoption of smartphone apps. Due to leakage current, device temperature has a large impact on processor and overall smartphone energy efficiency. The effect of temperature is exacerbated by the widespread deployment of multi-core smartphones. Mobile multi-core processors can begin to overheat quickly-within a few seconds-causing cores to be shut down and work to be lost. We are developing a new framework to manage device temperature at both short, medium, and long timescales, improving battery lifetime and increasing device energy efficiency by maintaining efficient operating temperatures.

Experience

Professional Experience

2009–2015 **Software Engineer**, *CompuSource Systems, Inc*, Buffalo, NY.

Design, implementation, and maintenance of a large suite of financial line of business applications.

Selected achievements:

- Design and implementation of a modified SQL-based query language and IDE.
- Led efforts on several major software releases.
- Conception, design, and implementation of a new software module that resulted in increased revenue and customer satisfaction.

Research Experience

August 2015–Present **Research Assistant**, *blue Systems Research Group*, University at Buffalo.

Researching smartphone quality of experience, performance, and resource management on mobile systems.

Summer 2014 **Research Assistant**, *blue Systems Research Group*, University at Buffalo.

Explored performance-efficiency tradeoffs on energy-constrained mobile devices.

Teaching

Fall 2016 **Co-instructor**, *Improving Smartphone Quality of Experience (Graduate Seminar)*.

Chose weekly papers and helped lead discussions with a small group of graduate students.

Spring 2014, 2016, 2017 **Volunteer**, *Introduction to Operating Systems*.

Multiple weekly office hours helping students with OS/161 projects and course material.

Student Activities

2002–2003 **Student Representative**, *Department of Mathematics*.

Undergraduate Student Representative from the Department of Mathematics for the College of Arts and Sciences Grievance Pool; recommended and appointed by faculty.

2016-Present **Treasurer**, *Graduate Student Association*.

Treasurer for the Department of Computer Science and Engineering Graduate Student Association; elected position.

Awards and Honors

2013 **2013 Robert H. and Catherine H. Goldsmith Fellowship**, *School of Engineering and Applied Sciences*.

Awarded to one engineering student annually "to offset the expense of the fifth year of tuition for the combined B.S./M. Engineering Program at the University at Buffalo."

2004 **Outstanding Senior Award**, *Department of Mathematics*.

2004 **Dean's Medalist**, *Department of Mathematics*.

Awarded to one student in each department "who has been singularly selected from among all undergraduate seniors for outstanding academic achievement."

Technical Skills

Programming and Scripting Languages

Language	Experience
Go	Several larger projects; current go-to language.
C/C++	Frequently used for modifying existing, large systems.
Python	Many quick scripts and some small projects.
Java	Previous small and medium projects, mostly academic.
C# (.NET)	Previous large, production projects.
JavaScript	Currently learning and using for small projects.

Frameworks and Platforms

Platform	Experience
Android (AOSP)	Modifications and new features in various projects.
Linux	Modifications and new features in various subsystems.

Publications

Workshop Papers

[1] Geoffrey Challen, Scott Haseley, Anudipa Maiti, Anandatirtha Nandugudi, Guru Prasad, Mukta Puri, and Junfei Wang. The mote is dead: long live the discarded smartphone! In *Proceedings of the 15th Workshop on Mobile Computing Systems and Applications*, page 5. ACM, 2014.

[2] Guru Prasad Srinivasa, Rizwana Begum, Scott Haseley, Mark Hempstead, and Geoffrey Challen. Separated by birth: Hidden differences between seemingly-identical smartphone cpus. In *Proceedings of the 18th Workshop on Mobile Computing Systems and Applications*. ACM, 2017.

Posters

[3] Scott Haseley and Geoffrey Challen. Poster: Qoe-centric mobile operating system design. In *Proceedings of the 14th Annual International Conference on Mobile Systems, Applications, and Services Companion*, pages 135–135. ACM, 2016.

[4] Scott Haseley and Geoffrey Challen. Measuring and improving smartphone qoe using the screen as a sensor (poster). In *Proceedings of the 18th Workshop on Mobile Computing Systems and Applications*. ACM, 2017.