

ERIN GRIFFITHS

Charlottesville, VA

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EDUCATION

Ph.D. Computer Science , <i>University of Virginia</i> , VA	<i>December 2019</i>
M.S. Computer Science <i>University of Virginia</i> , VA	<i>May 2013</i>
B.S. Computer Science <i>University of Puget Sound</i> , WA	<i>May 2011</i>
B.S. Mathematics <i>University of Puget Sound</i> , WA	<i>May 2011</i>

AWARDS AND HONORS

Graduate Student Teaching Award , University of Virginia	<i>2015</i>
<i>summa cum laude</i> , University of Puget Sound	<i>2011</i>
Dean's List , University of Puget Sound	<i>2007 - 2011</i>
Outstanding Senior in Mathematics and Computer Science , University of Puget Sound	<i>2011</i>
Edward Goman Scholarship , University of Puget Sound	<i>2010</i>
Inducted into Honor Societies: Upsilon Pi Epsilon, Phi Eta Sigma, Phi Kappa Phi, Phi Beta Kappa, and Golden Key International.	

RESEARCH

University of Virginia , <i>Research Assistant</i>	<i>June 2012 - present</i>
<ul style="list-style-type: none">• Developed hardware and software for sensing devices to research smarthome applications in-situ.• Analyzed research data using various platforms/languages, including Matlab, slurm, and python.• Conducted and published work on non-invasively tracking residents in homes, learning behavior and preferences for efficient control of load shifting and water heating, and apportioning appliance usage.• Communicated research work to the community with 8 published papers (4 first author), a book chapter, and oral, poster, and demo presentations at conferences.	
Microsoft Research, Redmond , <i>Research Intern</i>	<i>June 2013 - August 2013</i>
<ul style="list-style-type: none">• Ran a user study evaluating the feasibility of using a chair as an implicit sensor.• Designed, instrumented, patented, and published work on a chair that can sense heart and respiratory rate.	
University of Southern California: ISI , <i>Intern</i>	<i>June 2010 - August 2010</i>
<ul style="list-style-type: none">• Created a new data placement service for a grid/cloud computing system.• Modified a large existing project to use the new data placement service.	

TEACHING

University of Virginia , <i>Instructor</i>	<i>August 2017 - December 2017</i>
<ul style="list-style-type: none">• Covered second semester CS material such as object oriented programming, Java, GUIs, event driven programming, algorithm analysis, concurrency, and recursion.• Prepared over 30 hours of multimedia presentations and coordinated with 2 other instructors to present synchronized material and tests to one section (120 students) of a class of 470 students.	
University of Virginia , <i>Instructor</i>	<i>January 2015 - May 2015</i>
<ul style="list-style-type: none">• Redesigned and taught a course for non-CS majors from a variety of backgrounds covering introductory material on HTML, JavaScript, Python, computer hardware, and advanced Excel techniques.• Prepared over 40 hours of multimedia presentations and presented to over 100 students.	
University of Virginia , <i>Teaching Assistant</i>	<i>August 2011 - May 2012</i>
<ul style="list-style-type: none">• Held office hours and graded for 4 intro level computer science classes.• Lectured and supervised hands-on instructional computer science labs.	

PATENTS

Cardiovascular Risk Factor Sensing Device. Microsoft Technology Licensing LLC. U.S. Patent 14,522,915, filed October 24, 2014 and issued July 16, 2015.

PUBLICATIONS

- Erin Griffiths, Salah and Kamin Whitehouse. “**Privacy-preserving Image Processing with Binocular Thermal Cameras,**” *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, Vol. 1, No. 4, Article 133. (2017)
- Erin Griffiths, Avinash Kalyanaraman, Juhi Ranjan, and Kamin Whitehouse. “**An Empirical Design Space Analysis of Doorway Tracking Systems for Real World Environments,**” in *ACM Transactions on Sensor Networks*, Vol. 13, No. 4. (2017)
- Juhi Ranjan, Erin Griffiths, and Kamin Whitehouse. “**Human Context Sensing in Smart Cities, book chapter,**” in *Smart Cities: Foundations, Principles, and Applications*. (2017)
- Erin Griffiths and Kamin Whitehouse. “**ThermalThrift: Cost Effective Thermal Energy Storage for Load Shifting with Water Heaters,**” in *Embedded Wireless Systems and Networks, 2017 International Conference on*. EWSN’17. (27% acceptance rate)
- Avinash Kalyanaraman, Erin Griffiths, and Kamin Whitehouse. “**TransTrack: Tracking Multiple Targets by Sensing Their Zone Transitions,**” in *Distributed Computing in Sensor Systems, 2016 International Conference on*. DCOSS’16.
- Yong Sun, Md Anindya Prodhon, Erin Griffiths, and Kamin Whitehouse. “**How hot is piping hot?: Lower Energy Consumption with Smarter Hot Water Delivery.,**” in *Proceedings of the 14th International Conference on Information Processing in Sensor Networks*. IPSN’15. (24% acceptance rate)
- Erin Griffiths, T. Scott Saponas, and A.J. Bernheim Brush. “**Health Chair: Implicitly Sensing Heart and Respiratory Rate.,**” in *2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing*. UbiComp’14. (16% acceptance rate)
- Juhi Ranjan, Erin Griffiths, and Kamin Whitehouse. “**Discerning Electrical and Water Fixture Usage by Individuals in Homes.,**” in *1st ACM International Conference on Embedded Systems For Energy-Efficient Buildings*. BuildSys 2014. (27% acceptance rate)
- Timothy Hnat, Erin Griffiths, Raymond Dawson, and Kamin Whitehouse. “**Doorjamb: Unobtrusive Room-level Tracking of People in Homes Using Doorway Sensors.,**” in *The 10th ACM Conference on Embedded Networked Sensing Systems*. SenSys 2012. (20% acceptance rate)

POSTERS

- Erin Griffiths, Avinash Kalyanaraman, and Kamin Whitehouse. “**PhD Forum: Room-Level Tracking in Real Homes,**” in *Proceedings of the 14th International Conference on Information Processing in Sensor Networks*. IPSN’15.
- Erin Griffiths and Kamin Whitehouse. “**Fixture Discovery Through Occupant Localization.,**” in *Broadening Participation Workshop*. UbiComp’14.
- Juhi Ranjan, Yu Yao, Erin Griffiths, and Kamin Whitehouse. “**Using Mid-range RFID for Location Based Activity Recognition.,**” in *The Proceedings of the 2012 ACM Conference on Ubiquitous Computing*. UbiComp 2012.

SERVICE

ACM BuildSys: UrbSys Workshop TPC, member	2019
Reviewer, UbiComp, UIST, SUSCOM, CHI	2013 - 2018
IPSN Shadow TPC, Member	2015
Grad Student Rep. for Faculty Hiring, University of Virginia	2013 - 2015
CS Graduate Student Group Steering Committee, University of Virginia	2013 - 2014
Panelist, SHE++ women in computing, University of Virginia	2012 - 2013
ACM-W Treasurer, University of Virginia	2012 - 2013