Darren Carlson, Ph.D.

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Bio

Darren Carlson is an Assistant Professor of Computer Engineering in the Department of Electrical Engineering at the University of Hawai'i at Mānoa. He also serves as an Assistant Professor in the UH Academy for Creative Media (ACM) System. Dr. Carlson's research explores new approaches for building smart, cyber-physical computing systems that connect people with each other, with digital information and with the physical world around them. He has published widely in the areas of Internet of Things (IoT), smart sensing and mobile edge computing. He is the recipient of multiple research grant awards from institutions such as the German Federal Ministry of Education and Research and the Singapore Agency for Science, Technology and Research (A*STAR). Dr. Carlson founded and currently leads the UHM Ambient Computing Lab, which develops next-generation frameworks and algorithms for the emerging Internet of Things and Web of Things. His research interests include Cyber-physical Systems; IoT; Edge/Fog Computing; Virtual/Augmented Reality; and Human Computer Interaction.

Education

Ph.D. in Computer Science *7/2009*
University of Luebeck, Germany (Summa Cum Laude)

M.Sc. in Digital Media (Specializing in Ubiquitous Computing) *6/2005*
University of Luebeck, Germany (Highest Honors)

B.Sc. in Electronics Engineering *6/1998*
Minnesota State University, Mankato, USA (Summa Cum Laude)

Professional Experience

Assistant Professor of Computer Engineering *11/2016 – Present*
Department of Electrical Engineering at the University of Hawai'i at Mānoa, USA

Senior Research Fellow *2/2013 – 10/2016*
Department of Computer Science at the National University of Singapore

Research Fellow (Postdoc) *8/2009 – 12/2012*
Department of Computer Science at the University of Luebeck, Germany

Research Associate (Ph.D. Student) *11/2005 – 7/2009*
University of Luebeck (ISNM), Germany

Research & Teaching Assistant *10/2003 – 10/2005*
University of Luebeck (ISNM), Germany

Research Staff Member *3/2000 – 9/2003*
NEC Europe Network Laboratories, Heidelberg, Germany

Embedded Systems Engineer *3/1998 – 5/1999*
Elektrobit Corporation, Oulu, Finland

Recent Awards	**Best Demo Award** at the 5th International Conference on the Internet of Things (IoT 2015).	*10/2015*
	Best Demo Paper Award at MobiQuitous 2014.	*12/2014*
	Best Paper Award at the IEEE International Conference on Internet of Things.	*8/2013*
	Best Demo Award at the IEEE Conference on Pervasive Computing and Communication (PerCom 2013).	*3/2013*
	IoT Challenge Competition Winner at the 3rd International Conference on the Internet of Things (IoT 2012).	*10/2012*

Selected Publications	Shivam Verma, <u>Darren Carlson</u> and David S. Rosenblum. *Ambient VR: Blending IoT Interaction Capabilities with Web-based Virtual Reality.* Proceedings of the 7th International Conference on the Internet of Things (IoT 2017), ACM, Linz, Austria, October 22–25, 2017 (To Appear).
	Nirandika Wanigasekara, Jenny Schmalfuss, <u>Darren Carlson</u> and David S. Rosenblum. *A Bandit Approach for Intelligent IoT Service Composition across Heterogeneous Smart Spaces.* Proceedings of the 6th International Conference on the Internet of Things (IoT 2016), ACM, Stuttgart, Germany, November 7–9, 2016.
	<u>Carlson, D.</u>, Mögerle, M., Pagel, M., Verma, S., and Rosenblum, D. S. *Ambient Flow: A Visual Approach for Remixing the Internet of Things.* Proceedings of the 5th International Conference on the Internet of Things (IoT 2015), IEEE, Seoul, South Korea, October 26-28, 2015.
	Pagel, M. and <u>Carlson, D.</u> *Ambient Control: A Mobile Framework for Dynamically Remixing the Internet of Things.* Proceedings of the 2015 IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks. Boston, MA, USA, June 14-17, 2015.
	<u>Carlson, D.</u> and Schrader, A. *Ambient Ocean: A Web Search Engine for Context-aware Smart Resource Discovery.* Proceedings of the 7th IEEE International Conference on Internet of Things, Taipei, Taiwan, September 1-3, 2014.
	<u>Carlson, D.</u>, Altakrouri, B. and Schrader, A. *An Ad-hoc Smart Gateway Platform for the Web of Things.* Proceedings of the 6th IEEE International Conference on Internet of Things, Beijing, China, August 20-23, 2013.
	<u>Carlson, D.</u> and Schrader, A. *Ambient Dynamix: A Plug-and-Play Context Framework for Android.* Proceedings of the 3rd International Conference on the Internet of Things (IoT2012), Wuxi, China, October 24-26, 2012.

Recent Teaching	**EE491E: Internet of Things**	*Spring 2017*
	Role: Assistant Professor and Curriculum Developer. University of Hawaii at Manoa.	
	EE491F: Foundations of Multimedia Programming	*Fall 2017*
	Role: Assistant Professor and Curriculum Developer. University of Hawaii at Manoa.	