

Neil Klingensmith

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RESEARCH INTERESTS

Embedded Systems, Mobile Device Privacy, Virtualization on Resource-Constrained Devices

APPOINTMENTS

Assistant Professor, Loyola University Chicago Computer Science Department **2019-Present**

EDUCATION

PhD, Computer Engineering, University of Wisconsin-Madison **2019**

MS Computer Engineering, University of Wisconsin-Madison **2016**

BS Electrical Engineering, University of Wisconsin-Madison **2010**

PROFESSIONAL EXPERIENCE

Research Assistant, University of Wisconsin Computer Science Department **2012-2019**

FUNDING

Loyola University Office of Research Support, \$5k June 2019
Seed Funding for Autonomous Vehicle Lab

US Department of Energy Fellowship 2013, renewed for 2014
through the Building Innovators Program \$110k total

The Brew Seed Accelerator \$50k seed investment for Emonix, Fall 2017

MadWorks Accelerator Economic Impact Award, 1st Place, \$5k August 2016

AWARDS

UW CS NEST Award, 2nd place, \$3k, April, 2019

UW CS NEST Award, 1st place, \$1k, April, 2016

Transcend Madison Innovation Competition, 1st Place, \$7.5k March 2016

Dvorak Energy and Global Stewardship Prizes, Fall 2015
Wisconsin Energy and Sustainability Challenge Both 1st place, \$10k

Dvorak Energy Prize, Spring 2015
Wisconsin Energy and Sustainability Challenge 3rd place, \$500

NSF Travel Grant to attend ACM HotMobile, 2019

NSF Travel Grant to attend ACM eEnergy, 2018

NSF Travel Grant to attend ACM SenSys, 2013, 2015

Prime Quarter Beefeater Challenge, 2017, 2018

REFEREED PUBLICATIONS**VoltKey: Continuous Secret Key Generation based on Power Line Noise for Zero-Involvement Pairing and Authentication**

Kyuin Lee, Neil Klingensmith, Younghyun Kim, Suman Banerjee

Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), September 2019 (To appear)

Using Virtualized Task Isolation to Improve Responsiveness in Mobile and IoT Software

Neil Klingensmith, Suman Banerjee

ACM IoTDI, April 2019

A Hypervisor-Based Privacy Agent for Mobile and IoT Systems

Neil Klingensmith, Younghyun Kim, Suman Banerjee

ACM HotMobile, February 2019

A Method for Energy-Efficient Sampling of Analog to Digital Converters

Neil Klingensmith, Suman Banerjee

ACM Transactions on Sustainable Computing 2019

PANDA: Performance Acceleration through Nonuniform Data Acquisition

Neil Klingensmith, Suman Banerjee

ACM eEnergy, June 2018 (22% Acceptance Ratio)

Hermes: A Real Time Hypervisor for Mobile and IoT Systems

Neil Klingensmith, Suman Banerjee

ACM HotMobile, February 2018

SPOCK: A Sensor Value Prediction and Online Control Algorithm for Building Resource Management

Neil Klingensmith, Anantharaghavan Sridhar, Zachary LaVallee, Suman Banerjee

ACM BuildSys, November 2016 (20% Acceptance Ratio)

Water or Slime? A platform for automating water treatment systems

Neil Klingensmith, Anantharaghavan Sridhar, Zachary LaVallee, Suman Banerjee

ACM BuildSys, November 2015

Hot, Cold and In Between: Enabling Fine-Grained Environmental Control in Homes for Efficiency and Comfort

Neil Klingensmith, Joseph Bomber, Suman Banerjee

ACM eEnergy, June 2014 (20% Acceptance Ratio)

A Distributed Energy Monitoring and Analytics Platform and its Use Cases

Neil Klingensmith, Dale Willis, Suman Banerjee

ACM BuildSys, November 2013

POSTERS ETC**dBHound - Privacy Sensitive Acoustic Perception in Home Settings (poster)**

Anantharaghavan Sridhar, Neil Klingensmith, Suman Banerjee

ACM SenSys, November 2016

Edge Computing in the Extreme for Sustainability (invited paper)

Suman Banerjee, Neil Klingensmith, Peng Liu, and Anantharaghavan Sridhar

ACM S3, October 2016

Water or Slime? A platform for automating water treatment systems (poster)

Neil Klingensmith, Pete Chulick, Joseph Bomber, Suman Banerjee

ACM BuildSys, November 2014

Wireless Control in Microgrids (poster)

Tyler Duffy, Neil Klingensmith, Giri Venkataramanan
31st WEMPEC Annual Review, May 2012

TEACHING

CS 163 - Discrete Structures

Fall 2019

Graduate Teaching Assistant, ECE/CS 491 - Special Topics in Sustainability

Fall 2014

Graduate Project Advisor, CS 407 - Foundations of Mobile Systems

Fall 2015

PATENTS

Method and Device for Controlling a Water Conditioning System

Neil Klingensmith, Zach LaVallee, Suman Banerjee
(Pending)

INVITED TALKS

Launching a Startup, UW Industrial Systems Engineering 601, March 2017

Online Water Softener Monitoring, Madison Metropolitan Sewerage District, May 2016

SERVICE

ACM Transactions on Sustainable Computing (TSUSC) Reviewer 2019