

# NEAL S. JACKSON

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## EDUCATION

University of Michigan, Ann Arbor  
**B.S.E in Computer Engineering**  
GPA: 3.85

Sept 2012 – May 2016

University of California, Berkeley  
**Ph.D in Computer Science and Electrical Engineering**

August 2016 - Present

## ACADEMIC AWARDS AND HONORS

NSF GRFP Honorable Mention  
EECS Undergraduate Research Award  
James B. Angell Scholar

September 2016  
March 2016  
March 2014

## CONFERENCE PUBLICATIONS

J. Adkins , B. Ghena, **N. Jackson**, P. Pannuto, S. Rohrer, B. Campbell, and P. Dutta. The Signpost Platform for City-Scale Sensing. *International Conference on Information Processing in Sensor Networks (IPSN)* 2018.

## WORKSHOP PUBLICATIONS

J. Adkins , B. Campbell, B. Ghena, **N. Jackson**, P. Pannuto, and P. Dutta. Isolation Required for Multi-tenant Energy Harvesting Platforms. *International Workshop on Energy Harvesting and Energy Neutral Sensing Systems (ENSys)* 2017.

T. Zachariah, N. Klugman, B. Campbell, J. Adkins, **N. Jackson**, Prabal Dutta. The Internet of Things Has a Gateway Problem. *Proceedings of the 16th Workshop on Mobile Computing Systems and Applications (HotMobile)* 2015.

## POSTERS AND DEMOS

J. Adkins , B. Campbell, B. Ghena, **N. Jackson**, P. Pannuto, and P. Dutta. Demo Abstract: The Signpost Platform for City-Scale Sensing. *International Conference on Embedded Networked Sensor Systems (SenSys)* 2017.

J. Adkins , B. Campbell, B. Ghena, **N. Jackson**, P. Pannuto, and P. Dutta. Demo Abstract: The Signpost Network. *International Conference on Embedded Networked Sensor Systems (SenSys)* 2016.

## RESEARCH EXPERIENCE

### Graduate Research Assistant

University of California, Berkeley — Advisor: Prabal Dutta

August 2016 - Present

### Research Assistant

University of Michigan, Ann Arbor — Advisor: Prabal Dutta

May 2014 - September 2016

**All research is open source and freely available on [github.com/lab11](https://github.com/lab11)**

### Indoor Energy Harvesting Sensing

- Lead the design of a non-intermittent, solar energy harvesting sensor platform with a lifetime of over 10 years.
- An exploration of available low power components and energy storage technologies and analysis of tradeoffs between platform size, cost, and lifetime.
- End result will serve as a research prototype for LBL EPIC 14-017 lighting control project as well as platform for autonomous semantic localization and metadata generation.

### The Signpost Platform for City-Scale Sensing

- A self-sufficient, modular, energy harvesting sensing platform that easily attaches to street signposts.
- Enables fine-grained city sensing, simple sensor design for a modular interface, and easy deployment.
- Working to enable applications like air quality monitoring and gunshot detection and localization.

### **Generic Access Point for Embedded Sensors**

- Low power wireless sensors cannot use existing WiFi to relay data, and cannot rely on existing architecture.
- The Generic Access Point (GAP) is a border router for connecting edge devices using IEEE 802.15.4 or Bluetooth Low Energy (BLE) to the internet.
- Serves as a platform for testing different border router backhaul architectures. Currently used in several different sensor deployments at University of Michigan and UC Berkeley.
- Currently working on a new \$20 version built with aggressively affordable components and support for the Thread protocol.