NEAL S. JACKSON

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EDUCATION

University of Michigan, Ann Arbor   **Sept 2012 – May 2016**
B.S.E in Computer Engineering
GPA: 3.85

University of California, Berkeley   **August 2016 - Present**
Ph.D in Computer Science and Electrical Engineering

ACADEMIC AWARDS AND HONORS

NSF GRFP Honorable Mention   **September 2016**
EECS Undergraduate Research Award   **March 2016**
James B. Angell Scholar   **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

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 Michgian and UC Berkeley.
- Currently working on a new $20 version built with aggressively affordable components and support for the Thread protocol.