

Nipun Batra

PH.D. SCHOLAR

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Education

Indraprastha Institute of Information Technology Delhi

PH.D. SCHOLAR, COMPUTER SCIENCE (GPA 9.3/10)

Delhi, India

Jan 2012-Present

Delhi College of Engineering

BACHELORS OF ENGINEERING (HONS.), COMPUTER SCIENCE (GPA 9/10)

Delhi, India

Jul 2007 - April 2011

Honors & Awards

2015 **Best presentation award**, Sensys 2015 Doctoral Colloquium

Seoul, South Korea

2015 **ACM Travel Grant**, Sensys 2015

Seoul, South Korea

2014 **Best demo award**, Buildsys 2014

Memphis, USA

2014 **ACM Travel Grant**, eEnergy 2014

Cambridge, UK

2012 **PhD Fellowship**, TCS Research and Development

2012 **Travel and Lodging grant**, Microsoft Research Summer School

Bangalore, India

2010 **Systems engineering prize barrel**, AUVSI's student UAS competition

Maryland, USA

2009 **Young scientist travel grant**, Department of Science and Technology (Govt. of India)

Delhi, India

2009 **Director's award for best effort**, AUVSI's student UAS competition

Maryland, USA

Research Experience

IIIT Delhi

GRADUATE RESEARCH ASSISTANT

Delhi, India

Jan. 2012 - Present

University of Virginia (under Prof. Kamin Whitehouse)

VISITING RESEARCHER

Charlottesville, Virginia, USA

Jul. 2014 - Apr. 2015

Linux Android Network Systems Lab., DCE

UNDERGRADUATE RESEARCH INTERN

Delhi, India

Dec. 2010 - Jun. 2011

Unmanned Aircraft Systems Lab., DCE

UNDERGRADUATE RESEARCH ENGINEERING INTERN

Delhi, India

Dec. 2008 - Jul. 2010

Industrial Experience

Royal Bank of Scotland

SOFTWARE ANALYST

Gurgaon, India

Jun. 2011 - Nov. 2011

Goldman Sachs

ENGINEERING INTERN

Bangalore, India

Jun. 2010 - Aug. 2010

Invited Talks

2015 **University of Pennsylvania**, If you can measure it, can you improve it?

Philadelphia, USA

2015 **Carnegie Mellon University**, If you can measure it, can you improve it?

Pittsburgh, USA

Professional Service

2016 **Steering committee**, 3rd International NILM workshop

Canada

2014 **Program committee**, 2nd International NILM workshop

Austin, Texas, USA

Publications

Conferences

- [C4] Nipun Batra, Amarjeet Singh, and Kamin Whitehouse. “If You Measure It, Can You Improve It? Exploring The Value of Energy Disaggregation”. In: *Proceedings of the second ACM International Conference on Embedded Systems For Energy-Efficient Built Environments*. ACM. 2015.
- [C3] Nipun Batra, Jack Kelly, Oliver Parson, Haimonti Dutta, William Knottenbelt, Alex Rogers, Amarjeet Singh, and Mani Srivastava. “NILMTK: an open source toolkit for non-intrusive load monitoring”. In: *Proceedings of the 5th international conference on Future energy systems*. ACM. 2014, pp. 265–276.
- [C2] Nipun Batra, Pandarasamy Arjunan, Amarjeet Singh, and Pushpendra Singh. “Experiences with Occupancy Based Building Management Systems”. In: 2013, pp. 153–158.
- [C1] Nipun Batra, Haimonti Dutta, and Amarjeet Singh. “INDiC: Improved Non-Intrusive load monitoring using load Division and Calibration”. In: 2013.

Workshops

- [W3] Oliver Parson, Grant Fisher, April Hersey, Nipun Batra, Jack Kelly, Amarjeet Singh, William Knottenbelt, and Alex Rogers. *Dataport and NILMTK: a building data set designed for non-intrusive load monitoring*. 2015.
- [W2] Nipun Batra, Manoj Gulati, Amarjeet Singh, and Mani B Srivastava. *It’s Different: Insights into home energy consumption in India*. ACM, 2013.
- [W1] Pandarasamy Arjunan, Nipun Batra, Haksoo Choi, Amarjeet Singh, Pushpendra Singh, and Mani B. Srivastava. *SensorAct: A Privacy and Security Aware Federated Middleware for Building Management*. Toronto, Ontario, Canada, 2012. DOI: 10.1145/2422531.2422547. URL: <http://doi.acm.org/10.1145/2422531.2422547>.

Posters and Demos

- [P3] Nipun Batra, Manoj Gulati, Puneet Jain, Kamin Whitehouse, and Amarjeet Singh. *Bits and watts: improving energy disaggregation performance using power line communication modems: poster abstract*. ACM, 2014.
- [P2] Jack Kelly, Nipun Batra, Oliver Parson, Haimonti Dutta, William Knottenbelt, Alex Rogers, Amarjeet Singh, and Mani Srivastava. *Demo abstract: NILMTK v0. 2: A Non-intrusive Load Monitoring Toolkit for Large Scale Data Sets*. 2014.
- [P1] Pandarasamy Arjunan, Manaswi Saha, Manoj Gulati, Nipun Batra, Amarjeet Singh, and Pushpendra Singh. *SensorAct: Design and Implementation of Fine-grained Sensing and Control Sharing in Buildings*. 2013.

Tech. report

- [R4] Nipun Batra. *Non Intrusive Load Monitoring: Systems, Metrics and Use Cases*. 2015, pp. 501–502.
- [R3] Nipun Batra, Rishi Baijal, Amarjeet Singh, and Kamin Whitehouse. *How good is good enough? Re-evaluating the bar for energy disaggregation*. 2015.
- [R2] Nipun Batra, Amarjeet Singh, and Kamin Whitehouse. *Neighbourhood NILM: A Big-data Approach to Household Energy Disaggregation*. 2015.
- [R1] Nipun Batra, Amarjeet Singh, Pushpendra Singh, Haimonti Dutta, Venkatesh Sarangan, and Mani Srivastava. *Data Driven Energy Efficiency in Buildings*. 2014.