Education

Indraprashta Institute of Information Technology Delhi *Delhi, India*
Ph.D. Scholar, Computer Science (GPA 9.3/10) *Jan 2012-Present*

Delhi College of Engineering *Delhi, India*
Bachelors of Engineering (Hons.), Computer Science (GPA 9/10) *Jul 2007 -April 2011*

Honors & Awards

2015	**Best presentation award**, Sensys 2015 Doctoral Colloqium	*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 *Delhi, India*
Graduate Research Assistant *Jan. 2012 - Present*

University of Virginia (under Prof. Kamin Whitehouse) *Charlottesville, Virginia, USA*
Visiting Researcher *Jul. 2014 - Apr. 2015*

Linux Android Network Systems Lab., DCE *Delhi, India*
Undergraduate Research Intern *Dec. 2010 - Jun. 2011*

Unmanned Aircraft Systems Lab., DCE *Delhi, India*
Undergraduate Research Engineering Intern *Dec. 2008 - Jul. 2010*

Industrial Experience

Royal Bank of Scotland *Gurgaon, India*
Software Analyst *Jun. 2011 - Nov. 2011*

Goldman Sachs *Bangalore, India*
Engineering intern *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*

References

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[2] Arjunan, P., Saha, M., Gulati, M., Batra, N., Singh, A., and Singh, P. Sensoract: Design and implementation of fine-grained sensing and control sharing in buildings. *the poster*

track of 10th USENIX Symposium on Networked Systems Design and Implementation (NSDI'13) (2013).

[3] BATRA, N. Non intrusive load monitoring: Systems, metrics and use cases. In *Proceedings of the 13th ACM Conference on Embedded Networked Sensor Systems* (2015), ACM, pp. 501–502.

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[6] BATRA, N., DUTTA, H., AND SINGH, A. Indic: Improved non-intrusive load monitoring using load division and calibration. *12th International Conference on Machine Learning and Applications (ICMLA'13)* (2013).

[7] BATRA, N., GULATI, M., JAIN, P., WHITEHOUSE, K., AND SINGH, A. Bits and watts: improving energy disaggregation performance using power line communication modems: poster abstract. In *Proceedings of the 1st ACM Conference on Embedded Systems for Energy-Efficient Buildings* (2014), ACM, pp. 210–211.

[8] BATRA, N., GULATI, M., SINGH, A., AND SRIVASTAVA, M. B. It's different: Insights into home energy consumption in india. In *Proceedings of the 5th ACM Workshop on Embedded Systems For Energy-Efficient Buildings* (2013), ACM, pp. 1–8.

[9] BATRA, N., KELLY, J., PARSON, O., DUTTA, H., KNOTTENBELT, W., ROGERS, A., SINGH, A., AND SRIVASTAVA, M. Nilmtk: an open source toolkit for non-intrusive load monitoring. In *Proceedings of the 5th international conference on Future energy systems* (2014), ACM, pp. 265–276.

[10] BATRA, N., PARSON, O., BERGES, M., SINGH, A., AND ROGERS, A. A comparison of non-intrusive load monitoring methods for commercial and residential buildings. *arXiv preprint arXiv:1408.6595* (2014).

[11] BATRA, N., SINGH, A., SINGH, P., DUTTA, H., SARANGAN, V., AND SRIVASTAVA, M. Data driven energy efficiency in buildings. *arXiv preprint arXiv:1404.7227* (2014).

[12] BATRA, N., SINGH, A., AND WHITEHOUSE, K. If you measure it, can you improve it?: Exploring the value of energy disaggregation. In *Proceedings of the 2nd ACM International Conference on Embedded Systems for Energy-Efficient Built Environments* (2015), ACM, pp. 191–200.

[13] BATRA, N., SINGH, A., AND WHITEHOUSE, K. Neighbourhood nilm: A big-data approach to household energy disaggregation. *arXiv preprint arXiv:1511.02900* (2015).

[14] KELLY, J., BATRA, N., PARSON, O., DUTTA, H., KNOTTENBELT, W., ROGERS, A., SINGH, A., AND SRIVASTAVA, M. Demo abstract: Nilmtk v0. 2: A non-intrusive load monitoring toolkit for large scale data sets. *arXiv preprint arXiv:1409.5908* (2014).

[15] KELLY, J., BATRA, N., PARSON, O., DUTTA, H., KNOTTENBELT, W., ROGERS, A., SINGH, A., AND SRIVASTAVA, M. Nilmtk v0. 2: a non-intrusive load monitoring toolkit for large scale data sets: demo abstract. In *Proceedings of the 1st ACM Conference on Embedded Systems for Energy-Efficient Buildings* (2014), ACM, pp. 182–183.

[16] PARSON, O., FISHER, G., HERSEY, A., BATRA, N., KELLY, J., SINGH, A., KNOTTENBELT, W., AND ROGERS, A. Dataport and nilmtk: A building data set designed for non-intrusive load monitoring.

Presentation

6th CodeEngn (Reverse Engineering Conference)   *Seoul, S.Korea*

PRESENTER FOR <DEFCON 20TH : THE WAY TO GO TO LAS VEGAS>   *Jul. 2012*

- Introduced CTF(Capture the Flag) hacking competition and advanced techniques and strategy for CTF

Writing

A Guide for Developers in Start-up   *Facebook Page*

Founder & Writer   *Jan. 2015 - PRESENT*

- Drafted daily news for developers in Korea about IT technologies, issues about start-up.

AhnLab   *S.Korea*

Undergraduate Student Reporter   *Oct. 2012 - Jul. 2013*

- Drafted reports about IT trends and Security issues on AhnLab Company magazine.

A Guide for Developers in Start-up   *Facebook Page*

Founder & Writer   *Jan. 2015 - PRESENT*

- Drafted daily news for developers in Korea about IT technologies, issues about start-up.