

Stephen Lee

PhD. student, College of Information and Computer Sciences
140 Governors Drive, University of Massachusetts, Amherst, MA

phone: +1-413-461-8670
email: stephenlee@cs.umass.edu

- INTERESTS** Cloud computing, Cyber-physical systems, Energy analytics in computation sustainability
- EDUCATION**
- University of Massachusetts**, Amherst, MA **2013 - Present**
Ph.D Student, Computer Science
Advisor: Prof. Prashant Shenoy
- Chennai Mathematical Institute**, Chennai, India **2008 - 2011**
M.S., Computer Science
Thesis: Personalized knowledge creation using student's profile information
Advisor: Prof. Madhavan Mukund
- St. Stephen's College**, Delhi, India **2004 - 2007**
B.Sc.(G), Computer Science
- PROFESSIONAL EXPERIENCE**
- Tata Research Development and Design Center**, Pune, India **May '11- Aug '13**
Researcher
– Design and implemented tools for data center management and analysis.
- Ignite, Tata Consultancy Services**, Chennai, India **Nov '07 to Apr '11**
Software Engineer
– Full-stack web development of tools to enable learning and assessment in training center.
- Tata Interactive Systems**, Mumbai, India **Jun '05 - Jul '05**
Summer Intern
– Developed automation plugins for QuarkTool
- PUBLICATIONS**
- [1] Srinivasan Iyengar, **Stephen Lee**, David Irwin, Prashant Shenoy. *Analyzing Energy Usage on a City-scale using Utility Smart Meters*. Proceedings of the 3rd ACM International Conference on Embedded Systems for Energy-Efficient Built Environments (ACM BuildSys). 2016.
- [2] **Stephen Lee**, Srinivasan Iyengar, David Irwin, Prashant Shenoy. *Shared Solar-powered EV Charging Stations: Feasibility and Benefits*. Proceedings of the seventh Intl. Green and Sustainable Computing (IGSC), Hangzhou, China, Nov 2016.
- [3] Vani Gupta, **Stephen Lee**, Prashant Shenoy, Ramesh Sitaraman, Rahul Uргаonkar. *How to Cool Internet-Scale Distributed Networks on the Cheap*. Proceedings of the seventh ACM Intl. Conference on Future Energy Systems (ACM e-Energy), Waterloo, Canada, June 2016.
- [4] Akansha Singh, **Stephen Lee**, David Irwin, Prashant Shenoy. *SunShade: Software-defined Solar Power*. Proceedings of the seventh ACM Intl. Conference on Future Energy Systems (ACM e-Energy), Waterloo, Canada, June 2016 (Poster).
- [5] Aditya Mishra, Ramesh Sitaraman, David Irwin, Ting Zhu, Prashant Shenoy, Bhavana Dalvi, **Stephen Lee**. *Integrating Energy Storage in Electricity Distribution Networks*. Proceedings of the sixth ACM Intl. Conference on Future Energy Systems (ACM e-Energy), Bengaluru, India, July 2015.
- [6] **Stephen Lee**, Rahul Uргаonkar, Ramesh Sitaraman, Prashant Shenoy. *Cost Minimization using Renewable Cooling and Thermal Energy Storage in CDNs*. Proceedings of the 12th IEEE International Conference on Autonomic Computing (ICAC), July 2015.

- [7] Vani Gupta, **Stephen Lee**, Prashant Shenoy, Ramesh Sitaraman, Rahul Uргаonkar. *Towards cooling Internet-Scale Distributed Networks on the Cheap*. Proceedings of the ACM Sigmetrics Conference, Portland, Oregon, June 2015. (Poster).
- [8] Prateek Sharma, **Stephen Lee**, Tian Guo, David Irwin, Prashant Sharma. *Expect the Unexpected: Designing Derivative Clouds*. Proceedings of the Tenth European Conference on Computer Systems, EuroSys 2015, April 2015.
- PATENTS
- [1] Raman Srinivasan, Priyadarshini. Sridhar, Usha Rani, Swarna Srinivasan, **Stephen Lee**, Prema Subramaniam. *Personalized Content Generation*. Application No: 574/MUM/2011
- [2] **Stephen Lee**, Mariyam L., Makarand K., Anjali G., Rahul Kelkar, Harrick Vin. *Analytical method for target state determination of datacenter having heterogeneous sub-systems*. Application No: 3521/MUM/2012
- [3] Shruti Bhattacharya, Swaminathan Natarajan, **Stephen Lee**, Arpit Mandliya, Suman Singh, Kunal Ramdasi. *Evaluating Total Cost Of Ownership Based On System Design*. Application No: 1445/MUM/2013
- PROJECTS
- Solar power potential for residential rooftop**
– Developed a web application to show rooftop solar potential.
- ESP8266 Garage Opener**
– Developed a cloud proxy service to communicate with ESP8266 ultrasonic sensor
- Home Activity: Recognizing home activities using sensor data** *Prof. Sridhar Mahadevan*
– Explored and Implemented various ML models for activity recognition. [Report]
- OpenStack Trusted Advisory (Security)** *Prof. Prashant Shenoy*
– Libraries for managing application level security for OpenStack
- Remodel** *Prof. Emery Berger*
– ‘make’ program that builds in parallel non-conflicting commands in a makefile
- eTransform** *Tata Research Development and Design Center*
– Tools development for data center consolidation and migration schedule optimization
- OpenSeeSame, Online Aptitude Assessment Platform** *Ignite, Tata Consultancy Services*
– Involved in development and deployments of the application
- TCS Trainee Management Platform** *Ignite, Tata Consultancy Services*
– Developed performance tracker and analysis platform
- COURSES
- Distributed Operating Systems, Systems, Machine Learning, Probabilistic Graphical Models, Advanced Algorithms
- TEACHING
- Teaching Assistant**, University of Massachusetts, Amherst, MA
- EXPERIENCE
- Course: Programming Methodology **Fall 2014**
Course: Programming with Data Structures **Spring 2014**
Course: Problem Solving with the Internet **Fall 2013**
- TECHNOLOGY
- Programming Skills:** Python, Java/J2EE, Flex, C, C++
Web: Full-stack developer: HTML/CSS, JavaScript, NodeJS, AngularJS, Ionic
Libraries: Arduino, numpy, pandas, cvxopt, etc.
- AWARDS AND RECOGNITIONS
- Completed PhD Portfolio with Distinction. Distinction awarded to two students per year.
 - Winner of the HackUMass hackathon 2015
 - Travel grants awarded for Sigmetrics 2015, ACM eEnergy 2015, ACM eEnergy 2016
 - Received Tata Consultancy Services scholarship for my Masters education at Chennai Mathematical Institute (CMI)
 - Semi-finalist (Promising Innovation category) in Tata Innovista for building TCS Online Assessment Online Platform.