Srinivasan Iyengar

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Research Interests

- Distributed systems, Cyber-physical systems, IoT, Cloud and Edge Computing, Smart cities and energy.

Industry Experience

- **Microsoft Research** — Nov '18 - Current
  Postdoctoral Researcher — *Bangalore, KA India*
- **Nokia Bell Labs** — Jun '17 - Aug '17
  Summer Intern. Mentor: Prof. Vijay Gurbani — *Naperville, IL USA*
- **Tata Research Development and Design Center** — Aug '08 - Aug '13
  Research Associate — *Pune, MH India*

Education

- **University of Massachusetts Amherst** — Aug '13 - Oct '18
  Ph.D. Computer Science. Advisor: Prof. Prashant Shenoy — *Amherst, MA USA*
- **University of Massachusetts Amherst** — Aug '13 - Dec '15
  M.S. Computer Science — *Amherst, MA USA*
- **College of Engineering Pune** — Jul '04 - Jun '08
  B.Tech. Computer Science — *Pune, MH India*

Preprints

1. *REACT: Enabling Streaming Video Object Detection On The Edge With Asynchronous Cloud Support*.
   In Submission. Preprint available on request.

Publications

25. *Holistic Energy Awareness for Intelligent Drones*.
    Srinivasan Iyengar, Ravi Raj Saxena, Joydeep Pal, Bhawana Chhaglani, Anurag Ghosh, Venkat Padmanabhan, TV Prabhakar.
    In Proceedings of the 8th ACM International Conference on Systems for Energy-Efficient Built Environments (ACM BuildSys), 2021.

24. *Redesigning Cloud Computing for Renewable Energy*.
    Anup Agarwal, Jinghan Sun, Shadi Noghabi, **Srinivasan Iyengar**, Anirudh Badam, Ranveer Chandra, Srinivasan Seshan, Shivkumar Kalyanaraman.
    In Proceedings of the 20th ACM Workshop on Hot Topics in Networks (ACM HotNets), 2021.

23. *Understanding Driver-Passenger Interactions in Vehicular Crowdsensing*.
    Dhruv Agarwal, Srishti Agarwal, Vidur Singh, Rohita Kochupillai, Rosemary Pierce-Messick, **Srinivasan Iyengar**, Mohit Jain.
    In Proceedings of ACM Human-Computer Interaction, (ACM CSCW), Volume 5, Issue 2, 2021. **[Methods Recognition Award]**

22. *WattScale: A Data-driven Approach for Energy Efficiency Analytics of Buildings at Scale*.
    Srinivasan Iyengar, Stephen Lee, David Irwin, Prashant Shenoy, Benjamin Weil.
    In ACM Transactions on Data Science (ACM TDS), Volume 2, Issue 1, 2021.

21. *Modulo: Drive-by Sensing at City-scale on the Cheap*.
Dhruv Agarwal, **Srinivasan Iyengar**, Manohar Swaminathan, Eash Sharma, Ashish Raj, Aadithya Hatwar.
In Proceedings of the 3rd ACM SIGCAS Conference on Computing and Sustainable Societies (ACM COMPASS), 2020. **[Best Paper Award]**

20. *Emission-aware Energy Storage Scheduling for a Greener Grid*.
Rishikesh Jha, Stephen Lee, **Srinivasan Iyengar**, Mohammad H Hajiesmaili, David Irwin, Prashant Shenoy.
In Proceedings of the Eleventh ACM International Conference on Future Energy Systems (ACM eEnergy), 2020. **[Best Paper Runner-up Award]**

19. *RepEL: A Utility-preserving Privacy System for IoT-based Energy Meters*.
Phuthipong Bovornkeeratiroj, **Srinivasan Iyengar**, Stephen Lee, David Irwin, Prashant Shenoy.
In Proceedings of the ACM/IEEE Conference on Internet of Things Design and Implementation (ACM IoTDI), 2020.

18. *Poster: System for vehicle selection in drive-by sensing*.
Dhruv Agarwal, **Srinivasan Iyengar**, Manohar Swaminathan.
In Proceedings of the 17th Conference on Embedded Networked Sensor Systems (ACM SenSys), 2019.

17. *Deeproof: A data-driven approach for solar potential estimation using rooftop imagery*.
Stephen Lee, **Srinivasan Iyengar**, Menghong Feng, Prashant Shenoy, Subhransu Maji.
In Proceedings of the 25th International Conference on Knowledge Discovery and Data Mining (ACM SIGKDD), 2019.

16. *Inferring smart schedules for dumb thermostats*.
Srinivasan Iyengar, Sandeep Kalra, Anushree Ghosh, David Irwin, Prashant Shenoy, Benjamin Marlin.
ACM Transactions on Cyber-Physical Systems (ACM TCPS), Volume 3, Issue 2, 2018.

15. *Opportunistic Prefetching of Cellular Internet of Things (cIoT) device contexts*.
Srinivasan Iyengar, Vijay K Gurbani, Yu Zhou, Sameerkumar Sharma.
In Proceedings of the 27th International conference on computer communication and networks (IEEE ICCCN), 2018.

14. *Watthome: A data-driven approach for energy efficiency analytics at city-scale*.
Srinivasan Iyengar, Stephen Lee, David Irwin, Prashant Shenoy, Benjamin Weil.
In Proceedings of the 24th International Conference on Knowledge Discovery and Data Mining (ACM SIGKDD), 2018.

13. *Solarclique: Detecting anomalies in residential solar arrays*.
Srinivasan Iyengar, Stephen Lee, Daniel Sheldon, Prashant Shenoy.
In Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies (ACM COMPASS), 2018.

12. *A cloud-based black-box solar predictor for smart homes*.
Srinivasan Iyengar, Navin Sharma, David Irwin, Prashant Shenoy, Krithi Ramamritham.
ACM Transactions on Cyber-Physical Systems (ACM TCPS), Volume 1, Issue 4, 2017.

11. *Distributed rate control for smart solar arrays*.
Stephen Lee, **Srinivasan Iyengar**, David Irwin, Prashant Shenoy.
In Proceedings of the Eighth International Conference on Future Energy Systems (ACM eEnergy), 2017.

10. *Enabling distributed energy storage by incentivizing small load shifts*.
David Irwin, **Srinivasan Iyengar**, Stephen Lee, Aditya Mishra, Prashant Shenoy, Ye Xu.
ACM Transactions on Cyber-Physical Systems (ACM TCPS) Volume 1, Issue 2, 2017.

9. *Analyzing energy usage on a city-scale using utility smart meters*.
Srinivasan Iyengar, Stephen Lee, David Irwin, Prashant Shenoy.
In Proceedings of the 3rd ACM International Conference on Systems for Energy-Efficient Built Environments (ACM BuildSys), 2016.

8. *Sunspot: Exposing the location of anonymous solar-powered homes*.
   Dong Chen, **Srinivasan Iyengar**, David Irwin, Prashant Shenoy.
   In Proceedings of the 3rd ACM International Conference on Systems for Energy-Efficient Built Environments (ACM BuildSys), 2016.

7. *Shared solar-powered EV charging stations: Feasibility and benefits*.
   Stephen Lee, **Srinivasan Iyengar**, David Irwin, Prashant Shenoy.
   In Proceedings of the Seventh International Green and Sustainable Computing Conference (IEEE IGSC), 2016.

6. *Non-intrusive model derivation: automated modeling of residential electrical loads*.
   Srinivasan Iyengar, David Irwin, Prashant Shenoy.
   Proceedings of the Seventh International Conference on Future Energy Systems (ACM eEnergy), 2016.

5. *iProgram: Inferring smart schedules for dumb thermostats*.
   Srinivasan Iyengar, Sandeep Kalra, Anushree Ghosh, David Irwin, Prashant Shenoy, Benjamin Marlin.
   In Proceedings of the 2nd ACM International Conference on Embedded Systems for Energy-Efficient Built Environments (ACM BuildSys), 2015.

4. *SolarCast-an open web service for predicting solar power generation in smart homes: demo abstract*.
   Srinivasan Iyengar, Navin Sharma, David Irwin, Prashant Shenoy, Krithi Ramamritham.
   In Proceedings of the 1st ACM conference on embedded systems for energy-efficient buildings (ACM BuildSys), 2014.

3. *SolarCast: a cloud-based black box solar predictor for smart homes*.
   Srinivasan Iyengar, Navin Sharma, David Irwin, Prashant Shenoy, Krithi Ramamritham.
   In Proceedings of the 1st ACM Conference on Embedded Systems for Energy-Efficient Buildings (ACM BuildSys), 2014.

2. *English to Hindi Translation Protocols for an Enterprise Crowd*.
   Srinivasan Iyengar, Shirish Karande, Sachin Lodha.
   In Proceedings of the AAAI Conference on Human Computation and Crowdsourcing (HCOMP), 2013.

1. *Don't Use a Lot When Little Will Do: Genre Identification Using URLs.*
   Pattisapu Nikhil Priyatam, **Srinivasan Iyengar**, Krish Perumal, Vasudeva Varma.
   Res. Comput. Sci., 2013

Patents

1. **US20120041989 A1, EP2420967 A1, 2295/MUM/2010:** Generating assessment data
2. **US9356966 B2, EP2779044 A1, 778/MUM/2013:** System and method to provide management of test data at various lifecycle stages
3. **US20150220864A1, EP2905729A1:** System and method for providing crowd sourcing platform for task allocation
4. **680/MUM/2012:** Stratified Sampling of a Database
5. **2169/MUM/2013:** A system and method for implementing a privacy setting providing a defense against identifying a user
6. **2708/MUM/2013:** Managing cookies in computing devices
7. **45/MUM/2014:** System and method for providing transliteration by leveraging arpabet phonemes
8. **42/MUM/2014:** System and method for providing crowd sourcing platform for language translation

Honors and Awards

- **Best Paper Awards:** ACM COMPASS '20 (Winner), ACM eEnergy '20 (Runner-up)
- **Methods Recognition:** ACM CSCW '21

- **Hackathon 1st prize:** HackUMass 2015 (>500 participants)
- **Student Travel grants:** ACM SIGKDD 2018 (London), ACM BuildSys 2016 (Stanford), CompSust 2016 (Cornell), ACM eEnergy 2016 (Waterloo), Mathematics of Planet Earth 2014, Workshop on Data-aware Energy Use (San Diego)
- Finalist in Tata Innovista, an annual Tata Group-wide innovation event.
- Awarded SRL Star — given to the top research associate in the Systems Research Lab at TRDDC
- DeepRoof paper highlighted in UMass Amherst research spotlight and other media outlets

Teaching Experience

- **University of Massachusetts Amherst** — Aug '13 - Dec '13
  Teaching Assistant. CS220: Programming Methodology — *Amherst, MA USA*
- **University of Massachusetts Amherst** — Apr '15, Oct '15, Oct '16, Oct '17
  CS Department Outreach - Arduino Workshop Organization — *Amherst, MA USA*
- **University of Massachusetts Amherst** — Apr '18
  Guest Lecturer: CS677: Distributed Operating Systems — *Amherst, MA USA*

Service

1. **Technical Program Committee member:** COMSNETS (Poster Track) 2021, ICPP2020, ICFEC 2020, NILM 2020 at ACM BuildSys 2020, ACM BuildSys 2019, IPTComm 2019, IPTComm 2018
2. **Journal Reviewer:** Elsevier Sustainable Computing: Informatics and Systems, IEEE Transactions on Sustainable Computing
3. **External Reviewer:** ACM eEnergy 2018, AAAI 2018, IEEE PowerAfrica 2018, ACM SIGCOMM 2018
4. **Graduate Student Senate:** 2016 CS Department Representative at UMass Amherst
5. **UMass Student Union:** 2015 CS Department Representative at UMass Amherst

References

Available on request.