

# RAKSHA RAMAKRISHNA

**Address:** Teknikringen 33  
Stockholm, Sweden 11428

**Email:** [rakshar@kth.se](mailto:rakshar@kth.se)

**Website:** <https://www.kth.se/profile/rakshar>

**LinkedIn:** <https://www.linkedin.com/in/raksha-ramakrishna-b4390374/>

**Google scholar:** <https://scholar.google.com/citations?user=8Dom1fMAAAAJ&hl=en>

## WORK EXPERIENCE

---

- **KTH Royal Institute of Technology** Stockholm, Sweden **Nov 2020 - Present**  
**Position:** Postdoctoral Researcher  
**Advisor:** Prof. György Dán  
Privacy and Security in Federated Machine Learning Systems
- **Arizona State University**, Tempe, AZ, US **Aug 2015 - Sept 2020**  
**Position:** Graduate Research Assistant  
**Advisor:** Prof. Anna Scaglione  
Model-Based Machine Learning for the Power Grid
- **Lawrence Berkeley National Laboratory**, Berkeley, CA, US **June 2020 - Aug 2020**  
**Position:** Computing Science Summer Program Student Intern  
Differentially private schemes for advanced metering infrastructure data.
- **National Renewable Energy Laboratory**, Golden, CO, US **June 2017 - Aug 2017**  
**Position:** Graduate Student Intern  
Development of models to capture the interdependence of solar photo-voltaic power with thermostatically controlled loads.
- **Indian Institute of Science**, Bangalore, INDIA **Jan 2015 - May 2015**  
**Position:** Project Assistant  
Design and development of Interference Modeling Simulator tool for spectrum cartography.
- **Tektronix Engineering and Development**, Bangalore, INDIA **July 2014 - Dec 2014**  
**Position:** Software design engineer  
Oscilloscope user-interface design and development.

## EDUCATION

---

Arizona State University PhD in Electrical Engineering Signal Processing for Power Systems	Tempe, AZ, US <i>Dec 2020</i>
Arizona State University M. S. in Electrical Engineering Signal Processing	Tempe, AZ, US <i>Dec 2017</i>
R. V. College of Engineering B. E. in Electronics and Communications Engineering	Bengaluru, India <i>May 2014</i>

## COMPUTING SKILLS

---

- High-level programming languages: Python, C++
- Applications: MATLAB, L<sup>A</sup>T<sub>E</sub>X.

## ACADEMIC HONORS

---

- Selected for Future Digileaders program in KTH, Stockholm, 2019
- NSF Student travel grant awarded by IEEE Data Science Workshop (DSW) 2019, 750\$
- 3<sup>rd</sup> position in poster competition at the Clean Energy Education & Empowerment (C3E) symposium 2017 organized by the U.S. Women in Clean Energy Initiative at MIT, cash prize of 1000\$

## PUBLICATIONS

---

### JOURNAL PAPERS

1. Shammya Shananda Saha, Anna Scaglione, **Raksha Ramakrishna**, Nathan G. Johnson, “Distribution Systems AC State Estimation via Sparse AMI Data Using Graph Signal Processing”, in *IEEE Transactions on Smart Grid*
2. Ezzeldin Shereen, **Raksha Ramakrishna**, György Dán, “Detection and Localization of PMU Time Synchronization Attacks via Graph Signal Processing”, in *IEEE Transactions on Smart Grid*
3. **Raksha Ramakrishna** and Anna Scaglione, “Grid-Graph Signal Processing (Grid-GSP): A Graph Signal Processing Framework for the Power Grid”, *IEEE Transactions on Signal Processing*, vol. 69, pp. 2725-2739, 2021
4. **Raksha Ramakrishna**, Hoi-To Wai, Anna Scaglione, “A User Guide to Low-Pass Graph Signal Processing and its Applications”, *IEEE Signal Processing Magazine*, vol. 37, no. 6, pp. 74-85, Nov 2020
5. Mahdi Jamei, **Raksha Ramakrishna**, Teklemariam Tesfay, Reinhard Gentz, Ciaran Roberts, Anna Scaglione, Sean Peisert, “Phasor Measurement Units Optimal Placement and Performance Limits for Fault Localization”, *IEEE Journal on Selected Areas in Communications*, vol. 38, no.1, pp. 180-192, Jan 2020
6. **Raksha Ramakrishna**, Anna Scaglione, Vijay Vittal, Emiliano Dall’Anese, Andrey Bernstein, “A Model for Joint Probabilistic Forecast of Solar Photovoltaic Power and Outdoor Temperature”, *IEEE Transactions on Signal Processing*, vol. 67 no. 24, pp. 6368-6383, Dec 2019

### CONFERENCE PAPERS

1. Ignacio Losada Carreño, **Raksha Ramakrishna**, Anna Scaglione, Daniel Arnold, Ciaran Roberts, Sy-Toan Ngo, Sean Peisert, David Pinney, “SODA: An Irradiance-Based Tool to Generate Sub-Minute Solar Power Time Series Using Stochastic Models” *2020 IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm)*, pp 1-6
2. **Raksha Ramakrishna**, Nurullah Karakoc, Kári Hreinsson, Anna Scaglione, “Federating Solar, Storage and Communications in the Electric grid and Internet of Things”, *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Barcelona, Spain, 2020, pp. 9041-9045
3. **Raksha Ramakrishna** and Anna Scaglione, “A Bayesian lower bound for parameters with bounded support priors”, *2020 54th Annual Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, USA, 2020, pp. 1-6
4. **Raksha Ramakrishna** and Anna Scaglione, “Detection of False Data Injection Attack using Graph Signal Processing for the Power Grid”, *2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP), 2019*
5. **Raksha Ramakrishna** and Anna Scaglione, “On Modeling Voltage Phasor Measurements as Graph Signals”, *IEEE Data Science Workshop (DSW), 2019*

6. **Raksha Ramakrishna**, Anna Scaglione, Andreas Spanias, Cihan Tepedelenlioglu, “Distributed Bayesian Estimation with Low-rank Data: Application to Solar Array Processing”, *2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*
7. Nikhil Ravi, **Raksha Ramakrishna**, Hoi-To Wai, Anna Scaglione, “Network Inference and its Application to the Estimation of Crowd Dynamics from IoT Sensors”, *2018 IEEE 19th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*
8. **Raksha Ramakrishna**, Andrey Bernstein, Emiliano Dall’Anese, Anna Scaglione, “Joint Probabilistic Forecasts of Temperature and Solar Irradiance”, in *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2018*
9. **Raksha Ramakrishna** and Anna Scaglione, “A Compressive Sensing Framework for Solar Photovoltaic Power”, in *Conference Record of the Fiftieth Asilomar Conference on Signals, Systems and Computers, 2016*
10. P.N. Karthik, **Raksha Ramakrishna**, Geethu Joseph, Chandra R Murthy, Joyson Sebastian, Neelsh B Mehta, “Model-Based Interference Cartography and Visualization”, *Twenty Second National Conference on Communication (NCC), 2016*

## BOOK CHAPTER

Anna Scaglione, **Raksha Ramakrishna**, Mahdi Jamei, “Graph Signal Processing for the Power Grid”, Book Chapter in *Data Analytics for Power Systems*, Cambridge University Press