SAMARESH BERA

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Post-doctoral researcher, Indian Institute of Science, Bangalore, Karnataka, India, 560012

Website: `https://samareshbera.github.io/`

EDUCATION

Doctor of Philosophy (Thesis submitted) *January 2015 - Present*
Indian Institute of Technology Kharagpur
Thesis: Software-Defined Networking for Internet of Things: Rule Placement and Routing
Supervisor: Prof. Sudip Misra

Master of Science (by research) *2015*
Indian Institute of Technology Kharagpur
Thesis: Distributed Pricing Policy and Energy Management in Smart Grid
Supervisor: Prof. Sudip Misra
CGPA: 9.47

Bachelor of Technology, Electronics and Communication Engineering *2011*
West Bengal University of Technology
CGPA: 8.2

EXPERIENCE

Post-doctoral Researcher December 2020 - Present
CNI, IISc Bangalore

Visiting Researcher September 2020 - November 2020
BTIRC, IISc Bangalore

Research Engineer January 2020 - April 2020
INRIA, Sophia Antipolis *Nokia Bell Labs, France*

Senior Research Fellow October 2018 - December 2019
IIT Kharagpur *MHRD, Govt. of India*

Senior Research Fellow February 2016 - October 2018
SRIC, IIT Kharagpur *DRDO, Govt. of India*

Senior Project Officer August 2014 - January 2016
SRIC, IIT Kharagpur *DeiTY, Govt. of India*

Junior Project Officer August 2013 - July 2014
SRIC, IIT Kharagpur *DeiTY, Govt. of India*

Junior Project Assistant August 2012 - July 2013
IIT Kharagpur *DeiTY, Govt. of India*

TEACHING ASSISTANT

Software Engineering (CS20006 and CS29006)	IIT Kharagpur	Spring 2019, 2018, 2017
Wireless & Ad-Hoc Sensor Networks (IT60119)	IIT Kharagpur	Autumn 2016, 2015, 2014
Internet and Web-based Technologies (IT60102)	IIT Kharagpur	Spring 2015
Advanced Network Technologies (IT60106)	IIT Kharagpur	Spring 2014
Programming and Data Structure (CS10001)	IIT Kharagpur	Spring 2016
Programming and Data Structure Lab (CS19001)	IIT Kharagpur	Autumn 2018

PUBLICATIONS

<u>Book</u>

1. S. Misra and **S. Bera**, "Smart Grid Technology: A Cloud Computing and Data Management Approach", *Cambridge University Press*, Cambridge, UK, ISBN: 9781108566506, 2018 ⟨*link*⟩.

<u>Journal</u>

1. **S. Bera**, S. Misra, and N. Saha, "Traffic-Aware Dynamic Controller Assignment in SDN", *IEEE Transactions on Communications*, 2020 (preprint) ⟨*link*⟩.

2. S. Misra and **S. Bera**, "Soft-VAN: Mobility-Aware Task Offloading in Software-Defined Vehicular Network", *IEEE Trans. on Vehicular Technology*, 2019, ⟨*link*⟩.

3. **S. Bera**, S. Misra, and A. Jamalipour, "FlowStat: Adaptive Flow-Rule Placement for Per-Flow Statistics in SDN", *IEEE Journal on Selected Areas in Communications*, vol. 37, no. 3, pp. 530-539, 2019 ⟨*link*⟩.

4. **S. Bera**, S. Misra, and M. S. Obaidat, "Mobi-Flow: Mobility-Aware Adaptive Flow-Rule Placement in Software-Defined Access Network", *IEEE Trans. on Mobile Computing*, 2018 ⟨*link*⟩.

5. N. Saha, **S. Bera**, and S. Misra, "Sway: Traffic-Aware QoS Routing in Software-Defined IoT", *IEEE Trans. on Emerging Topics in Computing*, 2018 ⟨*link*⟩.

6. **S. Bera**, S. Misra, S. K. Roy, and M. S. Obaidat, "Soft-WSN: Software-Defined WSN Management System for IoT Applications", *IEEE Systems Journal* vol. 12, no. 3, pp. 2074-2081, Sept. 2018 (**Best paper award 2019**) ⟨*link*⟩.

7. S. Misra, **S. Bera**, Achuthananda M.P., S. K. Pal, and M. S. Obaidat, "Situation-Aware Protocol Switching in Software-Defined Wireless Sensor Network Systems", *IEEE Systems Journal*, vol. 12, no. 3, pp. 2353-2360, Sept. 2018 ⟨*link*⟩.

8. **S. Bera**, S. Misra, and A. V. Vasilakos, "Software-Defined Networking for Internet of Things: A Survey", *IEEE Internet of Things Journal*, vol. 4, no. 6, pp. 1994-2008, Dec. 2017 ⟨*link*⟩.

9. **S. Bera**, S, Misra, and D. Chatterjee, "C2C: Community-Based Cooperative Energy Consumption in Smart Grid", *IEEE Transactions on Smart Grid*, vol. 9, no. 5, pp. 4262-4269, Sept. 2018 ⟨*link*⟩.

10. S. Misra, **S. Bera**, T. Ojha, H. T. Mouftah, and A. Anpalagan, "ENTRUST: Energy Trading Under Uncertainty in Smart Grid Systems", *Computer Networks* (Elsevier), vol. 110, pp. 232-242, Dec. 2016 ⟨*link*⟩.

11. A. Samanta, **S. Bera**, and S. Misra, "Link-Quality-Aware Resource Allocation With Load Balance in Wireless Body Area Networks", *IEEE Systems Journal*, vol. 12, no. 1, pp. 74-81, Mar. 2018 ⟨*link*⟩.

12. S. Misra, **S. Bera**, T. Ojha, and L. Zhou, "ENTICE: Agent-Based Energy Trading with Incomplete Information in the Smart Grid", *Journal of Network and Computer Applications*, Vol. 55, pp. 202–212, Sept. 2015, ⟨*link*⟩.

13. **S. Bera**, P. Gupta, and S. Misra, "D2S: Dynamic Demand Scheduling in Smart Grid Using Optimal Portfolio Selection Strategy", *IEEE Transactions on Smart Grid*, Vol. 6, No. 3, pp. 1434–1442, Apr. 2015, ⟨*link*⟩.

14. **S. Bera**, S. Misra, and J. Rodrigues, "Cloud Computing Applications for Smart Grid: A Survey", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 26, No. 5, pp. 1477–1494, 2015, ⟨*link*⟩.

15. S. Misra, **S. Bera**, and T. Ojha, "D2P: Distributed Dynamic Pricing Policy in Smart Grid for PHEVs Management", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 26, No. 3, pp. 702–712, Feb. 2015, ⟨*link*⟩.

16. S. Misra, **S. Bera**, and M. S. Obaidat, "Economics of Customer's Decisions in Smart Grid", *IET Networks*, Vol. 4, No. 1, pp. 37–43, January 2015, ⟨*link*⟩.

17. S. Misra, **S. Bera**, A. Mondal, R. Tirkey, H. C. Chao, and S. Chattopadhyay, "Optimal Gateway Selection in Sensor-Cloud Framework for Health Monitoring", *IET Wireless Sensor Systems*, Vol. 3, No. 4, pp. 61–68, December 2013, ⟨*link*⟩.

Conference & Workshop

1. N. Saha, **S. Bera**, and S. Misra, "QoS-Aware Adaptive Flow-rule Aggregation in Software-Defined IoT", *in Proc. of the IEEE GLOBECOM*, Dec. 2018, ⟨*link*⟩.

2. **S. Bera**, S. Misra, and N. Saha, "DynamiTE: Dynamic Traffic Engineering in Software-Defined Cyber Physical Systems", *in Proc. of the IEEE ICC Workshop*, May 2018, ⟨*link*⟩.

3. **S. Bera**, S. Misra, M. S. Obaidat, "Mobility-Aware Flow-Table Implementation in Software-Defined IoT", *in Proc. of the IEEE GLOBECOM*, Dec. 2016, ⟨*link*⟩.

4. **S. Bera**, T. Ojha, S. Misra, M. S. Obaidat, "Cloud-based Optimal Energy Forecasting for Enabling Green Smart Grid Communication", *in Proc. of the IEEE GLOBECOM*, Dec. 2015, ⟨*link*⟩.

5. T. Ojha, **S. Bera**, S. Misra, and N. S. Raghuwanshi, "Dynamic Duty Scheduling for Green Sensor-Cloud Applications", *in Proc. IEEE International Cloud Computing Technology and Science (CloudCom)*, pp. 841–846, Singapore,, Dec., 2014, ⟨*link*⟩.

6. **S. Bera**, S. Misra, and M. S. Obaidat, "Energy Efficient Smart Metering for Green Smart Grid Communication", *in Proc. of the IEEE Global Communications Conference (GLOBECOM)*, pp. 2466–2471, TX, USA, Dec., 2014, ⟨*link*⟩.

7. S. Misra, A. Mondal, S. Banik, M. Khatua, **S. Bera**, and M. S. Obaidat, "Residential Energy Management in Smart Gird: A Markov Decision Process Based Approach", *Proc. of the IEEE Internet of Things (iThings/CPSCom)*, Beijing, China, August 2013, pp. 1152–1157, ⟨*link*⟩.

Book Chapter

1. S. N. Das, **S. Bera**, S. Misra, S. K. Pal, "Introduction to Wireless Sensor Networks", in Book "Soft Computing Applications in Sensor Networks", Editors: Misra and Pal, CRC Press, 2016, ⟨*link*⟩.

INVITED TALK

- 5th International Conference on Advanced Computing and Intelligent Engineering (ICACIE), 2020

- AICTE-Sponsored Online Short Term Training Program – III on Computer Networking with SDN, 2020

AWARDS AND SCHOLARSHIPS

- Received **IEEE Richard E Merwin** Student Scholarship from the IEEE Computer Society, 2017.

- Selected as **Young Researcher** for attending 5th **Heidelberg Laureate Forum**, Germany, September 2017.

- Received **travel grant** from **Heidelberg Laureate Forum Foundation** to attend HLF 2017.

- Received **Merit Cum Means scholarship** from **Govt. of West Bengal**, 2007-2008 and 2008-2009.

SOCIAL ACTIVITIES

TPC Member	ICDCN-2020, IEEE TechSym-2016, IEEE ScalCom-2014
Reviewer	IEEE COMST, IEEE JSAC, IEEE TMC, IEEE TCYB, IEEE TVT, and many more
Student Activity	Chair (2019), Vice-Chair (2019), IEEE Student Branch, IIT Kharagpur
	Treasurer (2016), IEEE Student Branch, IIT Kharagpur
Membership	Graduate Student Member, IEEE
	Student Member, IEEE Computer Society
Conference Organizer	IEEE TechSym (2016 and 2020)

DECLARATION

I hereby declare that the information furnished above are true to the best of my knowledge.

December 2, 2020   Samaresh Bera