DIBBENDU ROY

PhD. (University Of Melbourne and IIT Kharagpur)

Assistant Professor
Department of Electrical Engineering
IIT Indore

CONTACT

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Website

Dibbendu Roy

Google Scholar

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ACHIEVEMENTS

MIPA - Melbourne India Post Graduate Academy

Selected for Joint-PhD at University of Melbourne in collaboration with IIT Kharagpur.

M.Tech - Second among a class of 28.

Placed at Qualcomm in Communications Profile from Campus Placements

GATE - Graduate Aptitude Test in Engineering

Electronics and Communication Engineering (ECE)

Qualified in 2015 with score above 800/1000 (Top 1% among 200000 candidates appeared in the National Level Exam)

AIEEE - All India Engineering Entrance Examination

Ranked among top 1% out of 1000000 candidates in All India Engineering Entrance Examination

RESEARCH INTERESTS

Communication Networks, Machine and Deep learning, Distributed Optimization, Queuing and Game Theory, Causal Inference.

EDUCATION

Joint-PhD - Electrical and Electronic Engineering — 2017-2022
University of Melbourne and IIT Kharagpur

Thesis Title: Architecture and Policy Design for Next-generation Access Networks
Successfully defended on 12 Oct 2022
CGPA - 9.0/10

M. Tech. - Telecommunication Systems Engineering. — 2015 - 2017
Department of Electronics and Electrical Communication, IIT Kharagpur, India

Passed with 9.54/10 CGPA

B. Tech. - Electronics and Communication Engineering — 2009 - 2013
NIT Durgapur, India

Passed with 8.62/10 CGPA

REFERENCES

- Prof. James Gross, Professor
  EECS, ISE Division, KTH Royal Institute of Technology, Sweden
- Prof. Goutam Das, Associate Professor
  G.S. Sanyal School of Telecommunications, IIT Kharagpur
- Prof. Tansu Alpcan, Professor
  Department of Electrical and Electronic Engineering, University of Melbourne
- Prof. Marimuthu Palaniswami, Professor
  Department of Electrical and Electronic Engineering, University of Melbourne

WORK EXPERIENCE

Assistant Professor — Nov 32 - Current
Electrical Engineering, IIT Indore

Postdoc — Apr 23 - Oct 23
Causal Learning and Inference in 6G networks, EECS, KTH Royal Institute of Technology, Sweden

TOOLS

OMNet++ 5+ yrs

Machine and Deep Learning 2+ yrs

Python and Matlab 6+ yrs

C++ 10+ yrs

Linux 5+ yrs

Network Emulation (SDN+Dockers) 1+ yrs

Research Associate — Feb 22 - Apr 23
Project - 5G and Beyond (MeitY), IIT Kharagpur

- Attend 3GPP and ITU meetings to understand they dynamics of future networking technologies
- Propose new use-cases and solutions for next-generation networks
- Contribute in terms of Publications and Patents

Demonstrator for Signal Processing — Feb 21 - Jun 21
University of Melbourne

- Teaching Support and Undertake Workshops for EEE Graduates

Demonstrator for Communication Networks — Aug 20 - Jan 21
University of Melbourne

- Teaching Support and Undertake Workshops for EEE Graduates

Tutor and Teaching Assistant for Communication Networks and Analog Communication — Aug 18 - Current
NPTEL, India

- Designing Course Material, Assignments and Final Papers for online courses

Research Intern — Apr 16 - Jun 16
Airbus Research, Bangalore, India

- Explore Deep Learning Techniques to detect and classify SAR Images in Fighter Planes

Project Engineer — Aug 13 - Oct 14
Wipro Technologies, Bangalore and Chennai, India

- Development and Customization of CRM Oracle On Demand

EXTRACURRICULAR

- Playing Keyboard/Piano.
- Playing Football/Soccer and Table Tennis.
- Occasionally solving math problems and answering queries in forums like stack-exchange.

PUBLICATIONS

For latest Publications please refer to Google Scholar Profile

Related to PhD - Thesis

Roy, D., Rao, A.S., Alpcan, T., Das, G. and Palaniswami, M., 2022. Achieving AI-enabled Robust End-to-End Quality of Experience over Backhaul Radio Access Networks. IEEE Transactions on Cognitive Communications and Networking.

IEEE Transactions

Roy, D., Rao, A.S., Alpcan, T., Das, G. and Palaniswami, M., 2022. Achieving QoS for bursty uRLLC applications over passive optical networks. Journal of Optical Communications and Networking, 14(5), pp.411-425.

OSA/IEEE

Roy, D., Dutta, S., Datta, A. and Das, G., 2020. A cost effective architecture and throughput efficient dynamic bandwidth allocation protocol for fog computing over EPON. IEEE Transactions on Green Communications and Networking, 4(4), pp.998-1009.

IEEE Transactions

Analysis of Cognitive Radio Networks

Sardar, A.A., Roy, D., Mondal, W.U. and Das, G., 2023. Coalition Formation for Outsourced Spectrum Sensing in Cognitive Radio Network. IEEE Transactions on Cognitive Communications and Networking.

IEEE Transactions

Sardar, A.A., Roy, D., Mondal, W.U. and Das, G., 2022. Queuing Analysis of QoS Aware Microwave Power Transfer Enabled CR-IoT Network. IEEE Transactions on Wireless Communications.

IEEE Transactions

Sardar, A.A., Roy, D., Mondal, W.U. and Das, G., 2021. Queuing Analysis of Opportunistic Cognitive Radio IoT Network with Imperfect Sensing. IEEE Transactions on Cognitive Communications and Networking.

IEEE Transactions

Energy-Efficiency in Passive Optical Networks

Dutta, S., Roy, D. and Das, G., 2021. Protocol Design for Energy Efficient OLT in TWDM-EPON Supporting Diverse Delay Bounds. IEEE Transactions on Green Communications and Networking, 5(3), pp.1438-1450.

IEEE Transactions

Dutta, S., Roy, D. and Das, G., 2021. SLA-aware protocol design for energy-efficient OLT transmitter in TWDM-EPON. IEEE Transactions on Green Communications and Networking, 5(4), pp.1961-1973.

IEEE Transactions

Dutta, S., Roy, D., Bhar, C. and Das, G., 2018. Online scheduling protocol design for energy-efficient TWDM-OLT. Journal of Optical Communications and Networking, 10(3), pp.260-271.

OSA/IEEE

Economic Analysis of Passive Optical Networks

Mondal, W.U., Roy, D., Dutta, S. and Das, G., 2020. Economics of Resilient TWDM PONs. Journal of Lightwave Technology, 38(8), pp.2114-2126.

OSA/IEEE

Mondal, W.U., Roy, D., Dutta, S. and Das, G., 2019. Economic analysis of TWDM PONs: A sustainability and policy-making perspective. Journal of Optical Communications and Networking, 11(3), pp.79-94. OSA/IEEE

WORKSHOPS & CONFERENCES

Dutta, S., Roy, D. and Das, G., 2022, XR-specific C-DRX Enhancement for UE power saving in 5G NR (PIMRC), IEEE. PIMRC 2022

Roy, D., Dutta, S., Kumam, B. and Das, G., 2018, May. A cost-effective and energy-efficient all-optical access metro-ring integrated network architecture. In 2018 International Conference on Optical Network Design and Modeling (ONDM) (pp. 154-159). IEEE. ONDM 2018

PATENTS FILED

Inventors: Goutam Das, Sourav Dutta, Dibbendu Roy, "A Method and System for XR Specific UE Power Saving for 5G NR" Appl.No. 202231059571

Inventors: Goutam Das, Sourav Dutta, Dibbendu Roy, "A system for supporting low-latency extended reality services over ethernet passive optical network and a method thereof" Appl.No. 202331009017