Joel Jose

Research Scholar
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Education

Aug 2019 (expected)	**M. Tech. + Ph.D. (Dual Degree) in Electrical Engineering** *Indian Institute of Technology Bombay, Mumbai, India* CPI: *9.76/10.00*
April 2011	**B. Tech. in Electrical and Electronics Engineering** *National Institute of Technology Warangal, India* CPI: *9.50/10.00*

Experience

Research

Nov 2015 - present	**Research Scholar** *Indian Institute of Technology Bombay*, Mumbai, India Optimal Operation of Distribution Systems *Approaches leveraging graph theory and combinatorial optimization for efficient and economic operation of distribution networks.*
2014–2015	**Master's Research** *Indian Institute of Technology Bombay*, Mumbai, India Reliability Oriented Distribution Feeder Reconfiguration *Path-based optimization formulation of distribution feeder reconfiguration for power loss minimization and reliability enhancement.*
May 2010	**Summer Research Fellow** *Indian Institute of Science*, Bangalore, India Applications of Wavelet Transforms in Power Engineering *Studied the theory of wavelet transforms and their applications to fault-detection and power system relaying.*

Teaching and Mentoring

2015–2016	**Mentor** *B. Tech. Project*, IIT Bombay Mumbai, India *Mentored an undergraduate student for the successful completion of his B. Tech Project under the guidance of Prof. Anupama Kowli on dynamic microgrids.*
2014-2019	**Teaching Assistant**, IIT Bombay, Mumbai, India EE 768: Power Distribution Systems EE 655: Computer Aided Power System Analysis EE 334: Power Systems EE 234: Electrical Machines Laboratory EE 101: Introduction to Electrical and Electronic Circuits

Professional Experience

2011-2013	**Engineering Officer** *Indian Oil Corporation Limited*, Kozhikode Divisional Office, Kerala Designed new retail outlets, rolled out retail automation, drafted and executed annual maintenance contracts with various original equipment manufacturers.

Software Tools and Skills

Optimization	MATLAB's Optimization Toolbox, Gurobi, IBM CPLEX Optimization Studio
Graph theory	NetworkX graph algorithms package in Python
Power system	MATPOWER, PowerWorld Simulator, OpenDSS
Programming	MATLAB, Python, Julia, C/C++
Miscellaneous	LaTeX, HTML, JavaScript

Awards and Recognition

TA Received **Best Teaching Assistant** award from the Department of Electrical Engineering, Indian Institute of Technology Bombay for contributions in revamping the Electrical Machines Laboratory and modernizing the curriculum with new experiments.

TA Received **Excellence in Teaching Assistantship** award from the Department of Electrical Engineering, Indian Institute of Technology Bombay for contributions to the course Power Systems.

Fellowship Received Tata Consultancy Services (TCS) fellowship under their Research Scholar Program.

Travel Grant Received Student Travel Grant for the Innovative Smart Grid Technologies Asia Conference (ISGT-Asia 2017).

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Publications

Journal *Joel Jose and Anupama Kowli,* "Path-based Distribution Feeder Reconfiguration for Optimization of Losses and Reliability", IEEE Systems Journal, 2019. *Early Access.*
https://ieeexplore.ieee.org/document/8727910

Conference *Joel Jose and Anupama Kowli,* "Network Expansion for Improved Reliability in Distribution Networks", 2018 IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC), Malaysia, 2018.
https://ieeexplore.ieee.org/abstract/document/8566464

Conference *Anupama Kowli, Joel Jose, V. S. Borkar, and T. P. Imthias Ahamed,* "A Dynamic Programming Framework for Optimal Home Scheduling", IEEE PES Innovative Smart Grid Technologies Asia Conference (ISGT Asia 2017), Auckland, 2017.
https://ieeexplore.ieee.org/abstract/document/8378433

Conference *Joel Jose, Anupama Kowli, Vaibhav Bhalekar, Krishna V. Prasad and Narayanan Rajagopal,* "Dynamic Microgrid-based Operations: A New Operational Paradigm for Distribution Networks", IEEE PES Innovative Smart Grid Technologies Asia Conference (ISGT Asia 2016), Melbourne, 2016.
https://ieeexplore.ieee.org/abstract/document/7796446

Conference *Joel Jose and Anupama Kowli,* "Reliability Constrained Distribution Feeder Reconfiguration for Power Loss Minimization", National Power System Conference (NPSC 2016), Bhubaneswar, 2016.
https://ieeexplore.ieee.org/abstract/document/7858938