SOUMYA GHORAI

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EDUCATION

Indian Institute of Technology Kharagpur *2022 - Present*
Ph.D. Candidate, Electrical Engineering
Advisor : Dr.Souvik Chattopadhyay

Jadavpur University, Kolkata *2017 - 2019*
M.Tech. Energy Science and Technology CGPA: 8.43/10

Jadavpur University, Kolkata *2013 - 2017*
B.E., Electrical Engineering CGPA: 7.33/10

PUBLICATION

PV assisted Fuzzy based EV charge scheduling for demand-side energy management: a case study
S. Ghorai, D. Majumdar, T. Jash, S. Ray in IEEE Calcutta Conference (CALCON), 2020. [Link]

Revisiting small signal stability analysis techniques in the context of stability study of a two-area multimachine power system
S. Ghorai, S. Ray in IEEE Calcutta Conference (CALCON), 2020.[Link]

RESEARCH INTERESTS

Switch mode power conversion, Wide bandgap devices, High-frequency isolated converters, Communication technology for Smart Grid applications, Planar magnetics

RESEARCH EXPERIENCE

Indian Institute Of Technology Kharagpur December '22 - present

· Experience of PCB designing and component testing under an industrial consultancy project: Railway Battery Chargers, *PI*: Prof. S. Chattopadhyay

Indian Institute Of Technology Delhi September '20 - May '22
Research Scholar

· Worked on soft-switched efficient Point of Load converters
· Completed coursework with CGPA 9/10 overall
· Advisor: Dr. Mummadi Veerachary, Dept. of Electrical Engineering
(*Discontinued due to family health circumstances*)

Jadavpur University July '19 - May '20
Project Assistant under Rashtriya Uchchatar Shiksha Abhiyan 2.0 Fellowship

· Worked towards an off-grid battery-connected PV-fed UV-C LED driver for a community water purifier
· PI: Dr. Kamalika Ghosh, Co-PI: Dr. Debashis Chatterjee, Dept. of Electrical Engineering

Indian Institute Of Technology Delhi May'18 - July '18
Research Internship

· Small Signal Stability Analysis of Power System
with Dr. Ashu Verma, Dept. of Energy Science and Engineering.

Jadavpur University January '17 - April '17
Undergraduate Curriculum Project

· A natural cooling system for future buildings replacing Air Conditioners.
· Proposed plan implemented in Hardware using Arduino Uno.
with Dr. Tapan Kumar Ghoshal and Dr. Smita Sadhu, Dept. of Electrical Engineering

ACADEMIC EXPERIENCES

Relevant Coursework

	Offered by	SGPA	Sub. Code
Switch Mode Power Conversion	*Prof. S. Chattopadhyay*	10/10	*EE60019*
Intro. to Electrical Machines and Drives	*Prof.G. Poddar*	*10/10*	*EE61201*
Soft Switching Converters	*Prof.G. Poddar*	*9/10*	EE60206
Statistical Methods	*Prof.B. Banerjee*	*9/10*	MA60017
Selected Topoics in Power Electronics	*Prof.M. Veerachary*	*10/10*	ELL857
Advanced Topoics in Power Electronics	*Prof.M. Veerachary*	*10/10*	ELL856
Digital Control of Power Electronics	*Prof.S. Pramanick*	*9/10*	ELL850
Optimal Control Theory	*Prof.I.N.Kar*	*9/10*	ELL703

Teaching Assistantship

M.Tech. Power Electronics Lab	*Instructor : Prof. S. Chattopadhyay*	*IIT Kgp*
M.Tech. Machines Lab	*Instructor : Prof.G. Poddar*	*IIT Kgp*
B.Tech. 1^{st} year Engineering Lab	*Instructor : Prof.T. Bhattacharya*	*IIT Kgp*
B.Tech. 4^{th} year Power Apparatus and System Design Course	*Instructor : Prof.D. Kastha*	*IIT Kgp*
B.Tech. 1^{st} year Introduction to Electrical Engineering	*Instructor : Prof.S.S. Nag*	*IIT Delhi*

ACADEMIC ACHIEVEMENTS

Selected for admission in PhD program in Indian Institute Of Technology Delhi. (August '20 session)
Selected as a project assistant in a Central Govt. Research Programme - Rashtriya Uchchatar Shiksha Abhiyan (RUSA) 2.0 (July '19)
GATE EE 2017 score 513 (All India Rank - 5886).

TECHNICAL STRENGTHS

Firmware Languages	VHDL, CCS^{TM},Matlab, C/C++
PCB Design Software	Altium, KiCad
Simulation Platforms	PLECS, LTspice, PSIM
Others	LaTeX, Microsoft Visio, CorelDRAW, SketchUp(3D drawing)

PERSONAL DETAILS

Languages Proficient	Bengali, English, Hindi.
Date of Birth	May 7, 1996