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Aditya Kumar

Education

2019 - Present **Doctor of Philosophy - Electrical Engineering**
Indian Institute of Technology BHU, Varanasi,Uttar Pradesh,India, CPI : 8/10.00

2012–2014 **Master of Technology - Control and Automation**
National Institute of Technology, Rourkela, Rourkela,Odisha,India, CPI : 7.92/10.00

2007–2011 **Bachelor of Engineering - Electronics and Instrumentation**
Bharath University,Chennai, Tamilnadu, India, CPI : 7.41/10.00

2005–2007 **Central Board of Secondary Education(CBSE)**
Kendriya Vidyalaya No-1, Dhanbad,Jharkhand, India, Percentage : 74.60

2004–2005 **Jharkhand Academic Counsel(JAC)**
High SChool Dhanbad,Jharkhand, India, Percentage : 70.80

Employment History

September 2014-July 2019 **Assistant Professor**, *HMR Institute of Technology & Management, Delhi*,
Teaching and Training on Control System and Instrumentation

July 2019-Present **Senior Research Fellow**, *Indian Institute of Technology , BHU Varanasi*,
Working on diffrent Department of Science & Technology Projects.

Projects Undertaken

July 2019-Present **Static Output Feedback Controller Design for Linear Parameter Varying System**, *IIT BHU*,
Mathematical Modeling , Simulation and Hardware verification of control design.

Control Design for PMSG WECS, Design and simulation of Robust Static Output Feedback Controller for PMSG to track MPPT at variable wind speed condition considering System Uncertainty and External Noise.

Control Design for PMSM, Design and Simulation of Conventional and Robust Static Output Feedback Controller for PMSM for EV applications.

Control Design for Grid Connected Front End Converter, Design and simulation of FEC for achieving grid code requirement and ride through capabilities.

Hardware in Loop Implementation, Developed laboratory setup of 5 kw WECS Emulator consisting PMSM , PMDC machine, Converters and Control implementation using Dspace HIL tool to verify designed controllers.

Sensor and Signal Conditioning Circuits Development , Developed Current sensor board using LA55P sensor, Voltage sensor board using LV and Optocoupler for Converter switching. PCB Design and Development of three board.

Component Selection and Procurement, Selection of PMSG and compatible PMDC Motor, Dspace Control Processor, Converters, Sensors and its components. Overseeing project from purchasing to implementation

July 2019-Present **Solar Electric Boat in Project Varanasi**, *IIT BHU and Inverted Energy*,
Design and development of DC-DC Converter for solar charging and MPPT for E-Boat in Ganga River at Assi Ghat Varanasi in Partnership with Li-Ion Battery manufacturer INVERTED Energy and Ornet Solar .

July 2012-July 2014 **Spacing control of autonomous vehicle**, *NIT Rourkela*,
Mathematical Modeling , Simulation for autonomous vehicle with wireless communication and data losses.

Software Skills

Simulating	Matlab/simulink
Documenting	Latex, Microsoft Office, Microsoft Excel

Languages

Hindi

English

Key Courses

• Robust Control • Control systems • Optimal Control • Non Linear Control • Adaptive Control • Measurement and Instrumentation • Power Electronics

Interests

- Research, Learning New Skills, Badminton, Fittness