

# SWASTIK SHARMA

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sharmaswastik

## Education

### Indian Institute of Technology Kanpur

*Doctor of Philosophy (Ph.D.), Electrical Engineering - CGPA - 9.8/10.0*

Supervisors: Dr. Swathi Battula & Prof. (Dr.) S.N. Singh

2021 - ongoing

Kanpur, India

### National Institute of Technology Srinagar

*Bachelor of Technology (B.Tech), Electrical Engineering - CGPA - 9.1/10.0*

Supervisors: Prof. (Dr.) A.H. Bhat & Dr. T.N. Mir

2017 – 2021

Srinagar, India

– Ranked **First** in the Department; Expected **Gold Medal**

### Kendriya Vidyalaya No. 1 Jammu

*AISSCE - Percentage - 89.4%*

2017

Jammu, India

### Kendriya Vidyalaya No. 1 Jammu

*AISSE - CGPA - 10.0/10.0*

2015

Jammu, India

## Academic Achievements

- Expected **Gold Medal** for achieving highest CGPA in the Department of Electrical Engineering, NIT Srinagar
- Received **Letter of Appreciation** and **Cash Prize** for securing **10 CGPA** in AISSE from Mrs. Smriti Zubin Irani, then HRD Minister

## Projects/Internships

### B.Tech Project:

Nov, 2020 - June, 2021

*Novel Technique to Implement SVPWM for Matrix Converters using All the Valid Switching States*

Matrix Converters are single-stage, fully controlled, AC-AC semiconductor-based power conversion devices which are in the process of becoming a popular topology for direct AC-AC power conversion. This project presented a novel technique that helped tackling the issues of High Common Mode Voltage and Low Voltage Transfer Ratios when 18 Active Vectors and 3 Zero Vectors are used, and when only 6 Rotating Vectors are used respectively for Space Vector Pulse Width Modulation of Matrix Converters.

– Received an **Outstanding** grade.

### ALTTC, BSNL Internship

July, 2019

*Role of Electrical Wing in Telecom Industries*

### NHPC, SHEP Internship

Jan, 2019 - Feb, 2019

*Working of Different Departments of Salal Hydro-Electric Power Plant*

## Research Interests

- Transactive Energy Approach based modelling of Electric Vehicles and Batteries
- Charging Infrastructure for Electric Vehicles
- Battery Management Systems
- Integrated Transmission and Distribution Systems Modelling
- Electricity Market Design

## Technical Strengths

**Languages:** C, C++, Python, MATLAB

**Simulation Tools:** SIMULINK, PSIM, LTSpice

**Visual Designs:** Canva, Illustrator, Photoshop