

EDUCATION

Master of Science, Electrical and Computer Engineering, UT Austin August 2022 — Present
Bachelor of Tech. (Honors), Electrical Engineering, Minor in CS, IIT Kharagpur (GPA: 8.76/10.00) July 2016 — July 2020

INDUSTRY EXPERIENCE

Systems Engineer May 2023 — August 2023
Texas Instruments Dallas, Texas

- Optimizing system performance by comparison of GaN and Si devices using TI's latest gate driver evaluation module for notebook charging application
- Designing PCB co-layout for 2 different charging controllers

Power Electronics Engineer Sept 2020 — August 2022
Jaguar Land Rover Bengaluru, India

- Filed a patent (under review) related to electric vehicle charging hardware for the company's next-gen EVs
- Simulated 11kW and 22kW (240V AC to 600V DC to 400/800V DC) on-board charger circuits including thermal analysis
- Designed and evaluated topologies like totempole PFC, DAB, PSFB, resonant CLLC ensuring ZVS and ZCS operation
- Investigated device/component selection, controller design, efficiency optimization and PCB designing
- Collaborated with suppliers and teams in the UK to improve product robustness of existing EVs and PHEVs

Chief Power Electronics Engineer Sept 2019 — Mar 2020
Webber Electrocorp, Founders: Mr. Manuj and Mr. Shyama Agrawal IIT Kharagpur, India

- Built initial 3kW EV charger prototypes for the startup and mentored several juniors

RESEARCH EXPERIENCE

Graduate Research Assistant Nov 2022 — May 2023
Advisors: Dr. Dhiraj Murthy, Dr. Anna Wilkinson (UT Austin) Austin, Texas

- Investigated social media data using Oracle Cloud (scraping), and deploying custom Yolo and BERT models (inference) to explore multi-modal ML techniques and supervised undergraduates as part of the Computational Media Lab

Bachelors dissertation: Charger Design for light Electric Vehicles July 2019 — Mar 2020
Supervisor: Dr. Dipankar Debnath (Dept of EE, IIT Kharagpur) keshariS/charger4LightEVs

- Designed an efficient AC charger for light electric vehicles using interleaved boost PFC followed by PSFB topology.
- Designed additional auxiliary power supplies using the flyback and buck converters, fabricated and tested the hardware.

EV Research Group Lead Oct 2017 — Mar 2020
Supervisor: Dr. Vikranth Racherla (CRR, IIT Kharagpur) < Official Vehicle Launch Story >

- Designed modular power and driver boards for implementing 400W and 1kW BLDC motor controllers, and 3kW charger
- Mentored juniors about the prototypes and helped launch the startup Webber Electrocorp in Sept. 2019

Associate PCB Designer, Skytex, Founder: Mr. Mohit Gupta, Supervisor: Dr. S. Saderla Dec 2018 — Jan 2019
IIT Kanpur, India

- Designed the PCB for the IoT communication module of an Unmanned Aerial Vehicle

TECHNICAL SKILLS

MOOC Specializations Power Electronics (University of Colorado Boulder) || Electric Cars (TU Delft)
Software MATLAB/Simulink, PSIM, Cadence, Altium Designer, KiCad, LTSpice, JIRA
Programming C/C++, Python (opencv, keras, tkinter GUI), Embedded programming

AWARDS & HONORS

2020 Systems Society Award (Best B. Tech Thesis among Electrical, Energy and Instrumentation Engineering depts.)
2019 Silver Trophy (Inter IIT Tech Meet 8.0, IIT Roorkee)

LEADERSHIP & COMMUNITY OUTREACH

Astroclub Sub-Head, Space Technology Student's Society, IIT Kharagpur

Jan 2017 — Oct 2017

- Chief editor for 'Moonwalk' (Official Newsletter) and Manager of Space Technology Awareness Camp in Eastern India
- Organized a nationwide event 'National students space challenge' for students from over 100 universities across India

Social work in rural Kharagpur, National Service Scheme

July 2016 — Dec 2017

- Taught young primary school students and built a road for the rural village of Talbagicha

Kharagpur 📍