

EDUCATION

The University of Texas at Austin, Master of Science, Electrical and Computer Engineering (GPA: 3.8/4) **May 2024**
IIT Kharagpur, Bachelor of Tech. (Honors), Electrical Engineering, Minor in CS (GPA: 8.8/10) **July 2020**

INDUSTRY EXPERIENCE

Texas Instruments **June 2024 — Present**
Systems Engineer **Dallas, Texas**

- (Full-time) Currently building high efficiency low power chargers for personal electronics
- (2023 Internship) Optimized system performance by comparison of GaN and Si devices using TI's latest gate driver evaluation module for notebook charging application: USB-C Power Delivery at 140W-240W @600kHz with 5A input
- (2023 Internship) Designed the PCB co-layout for 2 different charging controllers and tested the hardware

Jaguar Land Rover **Sept 2020 — August 2022**
Power Electronics Engineer **Coventry, United Kingdom**

- Filed a patent (under review) related to EV 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 totem-pole PFC, DAB, PSFB, and resonant CLLC ensuring ZVS & ZCS operation
- Investigated device/component selection, controller design, efficiency optimization, and PCB design

Webber Electrocorp **Sept 2019 — Mar 2020**
Founding Chief Power Electronics Engineer **IIT Kharagpur, India**
• Helped launch the most well-funded campus startup in Sept. 2019 *Read: Official Vehicle Launch Story*
• Built initial 3kW EV charger prototypes for the startup and mentored/recruited several candidates

ACADEMIC/RESEARCH EXPERIENCE: Google Scholar

UT Austin Power Electronics Lab: Graduate Teaching Assistant **Sept 2023 — Present**
Advisor: Dr. Brian Johnson **Austin, Texas**

- Managing and re-designing the Power Electronics Lab (ECE462L & ECE394J) for 40 senior/graduate students

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

- Investigated social media data to explore multi-modal Machine Learning techniques and also supervised undergraduates as part of the Computational Media Lab

IIT Kharagpur Bachelors Dissertation: "Charger Design for light Electric Vehicles" **July 2019 — Mar 2020**
Advisor: Dr. Dipankar Debnath *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.

IIT Kharagpur EV Research Group Lead **Oct 2017 — Mar 2020**
Advisor: Dr. Vikranth Racherla **IIT Kharagpur, India**

- Designed modular power and driver boards for implementing 400W and 1kW BLDC motor controllers
- **IIT Kanpur startup - Skytex**: Collaborated on an Unmanned Aerial Vehicle project
- MOOC Specializations: Power Electronics (University of Colorado Boulder) || Electric Cars (TU Delft)

AWARDS & HONORS

2024 **Texas Public Educational Grant scholarship** (awarded by UT Austin)
2023 **Professional Development Award** (awarded by UT Austin ECE for conference presentation)
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: Tech competition among 20 major IITs)
2016 **KVPY National Fellow** (funded by the Department of Science and Technology, Government of India)

LEADERSHIP & COMMUNITY OUTREACH

Leadershape: Discussed critical social and global issues, embracing a healthy disregard for the impossible **May 2023**

spAts: Space Technology Students' Society, IIT Kharagpur: Space Club Lead **Jan 2017 — Oct 2017**

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

NSS: National Service Scheme: Community service/Education at Talbagicha in rural Kharagpur **July 2016 — Dec 2017**