

Soham Manjrekar

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EDUCATION

Georgia Institute of Technology

Aug. 2024 – Dec. 2025

Master of Science in Electrical Engineering

Thesis Advisor: Dr. Deepak Divan

- Chair, IEEE Power & Energy Society Student Chapter

University of Illinois Urbana-Champaign

Aug. 2020 – May 2024

Bachelor of Science in Electrical Engineering

- Hoeft Technology and Management Minor

EXPERIENCE

Graduate Research Assistant

Aug. 2024 – Present

Georgia Institute of Technology – Center for Distributed Energy (CDE)

Atlanta, GA

- Advisor: Dr. Deepak Divan
- Research focused on designing, modeling and prototyping grid-connected inverters integrating distributed energy resources to be rapidly adopted and scaled for digitalization, decentralization, and decarbonization

Undergraduate Research Assistant

Aug. 2023 – May 2024

University of Illinois Urbana-Champaign – Power and Energy Group

Champaign, IL

- Advisor: Dr. Arijit Banerjee
- Research conducted to analyze, and experimentally characterize transformer core losses when excited by a wave of multiple frequencies

Electrical Engineering Intern

May 2023 – Aug. 2023

Northrop Grumman - Mission Systems

Baltimore, MD

- Simulated interference signals to test the Electronic Weapons (EW) system aboard the EA-18G Growler platform
- Built and implemented DVT tests to verify performance of the EW system

Electrical Engineering Intern

May 2022 – Aug. 2022

Black & Veatch

Overland Park, KS

- Conducted a Lightning Arrester Site Survey, traveling to 10+ substations to assess the arresters thermal congruity
- Performed a physical design for Lightning Arrester Replacement, with delivery to client

Electrical Engineering Intern

May 2021 – Oct. 2021

American Battery Solution

Lake Orion, MI

- Developed an automated system to report simulated requirement testing and validation of battery packs in an ETAS LABCAR with Python scripts

PUBLICATIONS & PATENTS

- [1] Deepak Divan, Joseph Benzaquen, and Soham Manjrekar. *Automatic Integration of PV Solar Energy into Multiport Dual Active Bridge Converter-Based EV Chargers*. Provisional Patent Disclosure, Georgia Institute of Technology. June, 2025.
- [2] Ruomu Hao et al. “A Multiport Bidirectional HF-Link Split-phase DC/DC/AC Universal Minimal Converter”. In: *IEEE Energy Conversion Congress & Expo (ECCE)*. Accepted. 2025.
- [3] Soham Manjrekar et al. ““AC Cube”: A Single-Stage PV/Battery/Grid Energy Router”. In: *2025 IEEE Energy Conversion Congress & Exposition Asia (ECCE-Asia)*. Bengaluru, India, 2025, pp. 1–6. DOI: 10.1109/ECCE-Asia63110.2025.11111930.
- [4] Navami Prabhu et al. “Solar Plug – Universal Off-Grid Microconverter for Low-Cost Tier-1-4 Energy Access”. In: *IEEE International Decentralized Energy Access Solutions (IDEAS) Conference*. Presented. 2025.

AWARDS

Frank C. Mock Scholarship

Dec. 2023

- This scholarship is given in honor of the Frank C. Mock family to be used to help top ECE students

Grainger Power Engineering Award

May 2024

- To reward highly qualified and well-motivated undergraduate and graduate students who have chosen to pursue a field of study in electric power engineering

TECHNICAL SKILLS

Design: MATLAB/Simulink, PLECS, LTSpice, Cadence Allegro, ORCad, KiCad, Fusion 360

Languages: Python, C/C++, SystemVerilog, JavaScript, HTML/CSS, R

Developer Tools: Git, VS Code, Quartus, Eclipse