# Soham Manjrekar

+1(919) 455-5909 | smanjrekar6@gatech.edu | linkedin.com/in/sohammjkr/ | github.com/sohammjkr

## 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 to experimentally characterize transformer core losses when excited by a signal of multiple frequencies

**Electrical Engineering Intern** May 2023 – Aug. 2023
*Northrop Grumman - Mission Systems* *Baltimore, MD*

- Tested and validated Electronic Warfare (EW) systems aboard the EA-18G Growler platform
- Supported design and analysis of the Power Processing Unit (PPU) for electrical systems on the F-35 Lightning II

**Electrical Engineering Intern** May 2022 – Aug. 2022
*Black & Veatch - Power Delivery* *Overland Park, KS*

- Worked on the physical design of GIS substations across the Midwest and performed a site survey to validate lightning arresters
- Developed proposal for street-side EV charging bays presented to City of Kansas City

**Electrical Engineering Intern** May 2021 – Oct. 2021
*American Battery Solutions* *Lake Orion, MI*

- Developed an automated system with Python scripts to report simulated requirement testing and validation of battery packs in an ETAS LABCAR with a real BMS
- Built a low-cost CANalyzer alternative using open-source software and economical hardware to transmit CAN signals directly to a mobile app or web server

## 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