

SHUMENG WANG

100 Forsyth St, Boston, MA, US, 02115

+1-781-921-0831

wang.shum@northeastern.edu

shumeng-wang-neu

shumengwang.com

Education

Northeastern University

Ph.D. in Electrical Engineering

Sep. 2022 – Expected 2027

Boston, Massachusetts, US

Delft University of Technology

M.Sc. in Electrical Engineering (GPA: 8.5/10)

Sep. 2020 – Aug. 2022

Delft, South Holland, NL

University of Leuven

B.Sc. in Electronics Engineering (Graduated with Cum Laude)

Sep. 2018 – Jul. 2020

Leuven, Flemish Brabant, BE

Southwest Jiaotong University

B.Eng. in Electrical Engineering (Class 2020 of Mao Yisheng Honors College)

Sep. 2016 – Jul. 2020

Chengdu, Sichuan, CN

Research Experience

Power Electronics Research Group, Northeastern University

Doctoral Researcher, advisor: Prof. Brad Lehman, Prof. Mahshid Amirabadi

Sep. 2022 – Present

Boston, Massachusetts, US

- Studying various grid-tied inverter configurations to enable fast startup and fast synchronization.
- Proposing real-time algorithm for evaluating battery degradation for effective health monitoring.

DCE&S, Delft University of Technology

Master Researcher, advisor: Prof. Pavol Bauer, Dr. Zian Qin, Ir. Sachin Yadav

Dec. 2021 – Aug. 2022

Delft, South Holland, NL

- Converter details: 2kW GaN-based multi-DC-voltage-ratings Multi-Active-Bridge (MAB) DC/DC converter.
- Proposed hot-swapping buffer circuit for MAB converter for surge current and surge voltage limiting.
- Designed decentralized control strategy for modular hot-swapping active bridges.
- Designed planar multi-port transformer with PCB winding for minimum leakage inductance.

DCE&S, Delft University of Technology

Course Researcher, advisor: Prof. Jianning Dong

Oct. 2020 – Nov. 2020

Delft, South Holland, NL

- Designed a 40W inductive power transfer (IPT) coil with 20mm vertical distance and efficiency of 95% in simulation.
- Proposed a series of numerical methods for computing the parameters of core-free coupling coils in IPT systems.

Energy Internet Lab, Southwest Jiaotong University

Summer Intern, advisor: Prof. Ruikun Mai, Prof. Yong Li, Dr. Shunpan Liu

Jul. 2019 – Sep. 2019

Chengdu, Sichuan, CN

- Conducted literature review, introduced novel circuit topologies, and performed analysis using Simulink simulations.

Internship Experience

ABB | Research Intern

Sep 2021 - Nov. 2021

- Supervisor: Dr. Ken Kuen-Faat Yuen, Mr. Yin Tang, Project domain: Modular Power Inverter.
- Designed and refined topologies, implement multiple versions of prototypes, conduct relevant tests.
- Prototypes capable of operating in parallel and three-phase mode, and operating in extreme overload conditions.

Software Skills

Circuit Analysis: Simulink, LTspice, PLECS, Multisim

PCB and Hardware Design: Altium Designer, Eagle

Microcontroller and FPGA: C, Assembly Code, Xilinx Vivado

Programming Languages: MATLAB, Julia, Python, Java, C

Other Software Skills: LaTeX, MySQL

Teaching Experience

EECE5684 - Power Electronics - Teaching Assistant - Northeastern University - Spring 2023

EECE5670 - Sustainable Energy - Teaching Assistant - Northeastern University - Fall 2023

Honors

Award of Excellence - ABB - Nov. 2021

Cum Laude - University of Leuven - Jul. 2020