



# Sangin Bae

Research Assistant at University of Wisconsin-Madison

☎ (608)209-6125  
✉ sangin.bae@wisc.edu  
📍 53705-3037 4801 Sheboygan Ave Apt 704  
💻 baesangin.github.io

## Skills

DSP  
PSIM  
PLECS  
Pytorch  
Python  
PCB Design  
SIMULINK  
MATLAB

## Work experience

### Undergraduate Student Researcher

Hanyang University, Seoul

June 2023  
August 2023

- Train VGGNet for an object detection
- Experience in Pytorch

### Research Assistant

University of Wisconsin Madison, Madison

August 2025  
Current

- Develop Active Power Decoupling Modular Multilevel Converter (APD-MMC) control strategy
- Develop Stability analysis method via Monodromy Matrix

### Undergraduate Student Researcher

Chung-Ang University, Seoul

January 2024  
February 2025

- Develop 25kW modular Electric Vehicle (EV) fast charger
- Utilize Wide-Band Gap (WBG) devices for a compact design - 25kW/1.5L
- Design magnetic devices optimized to a high switching frequency - up to 500kHz
- Implement Zero-Voltage Switching (ZVS) for a high efficiency - more than 95%

## Education

### Doctor of Philosophy / Electrical and Computer Engineering

University of Wisconsin-Madison, Madison

August 2025  
Current

### Bachelor of Science / Electrical Engineering

Hanyang University, Seoul

January 2019  
January 2025