Shenglai Jin

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EDUCATION

Technische Universität München Munich, German 10.2023-03.2024

Exchange Program, Computer Information and Technology

Chalmers Tekniska Högskola Gothenburg, Sweden 08.2022-01.2025

Master of Sustainable Electrical Power Engineering and Electromobility

Beijing Jiaotong University Beijing, China 09.2017-07.2021

Bachelor of Engineering in Electrical Engineering and Automation (renewable energy)

RESEARCH & PROJECT EXPERIENCE

Positioning of Charger Stations for a fully electrified Swedish Transport System, Consequence on the Power System 04.2024-12.2024

- ✧ Built traffic flow and travel behavior models using machine learning to estimate EV energy demand for urban commuting and highway travel.
- ✧ Designed a multi-criteria site selection framework for charging stations under technical and policy constraints.
- ✧ Applied Monte Carlo simulations and optimization algorithms to evaluate the impact on energy system and energy market.

Computational Electromagnetic Project 03.2023-06.2023

- ✧ Utilized COMSOL Multiphysics to perform advanced simulations focusing on the interplay between heat, electricity, and mechanical forces, modeling complex electromagnetic environments.
- ✧ Authored comprehensive research reports detailing simulation methodologies, findings, and their implications for applied electromagnetic systems.

High Voltage Testing Project 01.2023-03.2023

- ✧ Participated in high-voltage impulse generation and measurement, operating a multi-stage impulse generator and applying voltage divider and sphere-gap techniques to analyze insulation breakdown and withstand characteristics.
- ✧ Conducted studies on overvoltage propagation in cables using transmission line theory, including parameter calculation and wave measurements, and evaluated surge arrester and sphere-gap effectiveness in overvoltage mitigation.

Modeling of Li-ion Battery for vehicles and energy storage applications 10.2022-01.2023

- ✧ Modeled lithium-ion batteries in COMSOL to analyze electro-thermal behavior and evaluate performance under varying operating conditions.
- ✧ Participated in laboratory fabrication and testing of lithium-ion cells, gaining hands-on experience in battery assembly, operation, and performance validation.

Testing of Power Electronics Device 09.2022-10.2022

- ✧ Performed laboratory testing of power electronic components, including switching behavior, efficiency evaluation.
- ✧ Conducted circuit-level simulations in PSpice to validate experimental results and optimize device operation under varying load conditions.

Research on Brain-Computer Interface Technology 02.2021-06.2021

- ✧ Conducted EEG signal analysis focusing on SSVEP features, applying digital filtering to suppress electromagnetic noise.
- ✧ Built feature signal models and implemented a BCI system controlling an EEG-driven trolley, completing system integration, debugging, and operational validation.

Research on Power Allocation Strategy of Wind Farm Group Based on Multidimensional Evaluation 01.2020-06.2020

- ✧ Developed evaluation metrics for balanced dispatch of wind farm clusters, integrating resource availability, grid structure, and equipment performance to enhance utilization and system reliability.
- ✧ Designed power allocation strategies considering dynamic output estimation, system losses, and regulation demands, supporting grid stability and peak-shaving requirements.

New Energy Consumption Evaluation, Calculation and Strategy Research of North Hebei Power Grid Based on New Energy Cloud Platform 01.2019-09.2020

- ✧ Collected and organized power system data to build a comprehensive database, supporting RES consumption analysis and forecasting.
- ✧ Authored the project's final report, detailing key methodologies, findings, and actionable strategies.

Research on Smart Grid Soft Connection Mechanism and Model Adapt to the Development of Global Energy 09.2017-12.2018

- ✧ Collected and curated power data from multiple countries to establish a comprehensive global energy database.
- ✧ Analyzed international power policies to construct a power grid interconnection model, facilitating global energy collaboration.
- ✧ Drafted the final project report along with four detailed subproject reports.

INTERNSHIP & WORK EXPERIENCE

Delegation Attaché for Sveriges Akademiska Idrottsförbund, FISU 04.2025-07.2025

- ✧ Coordinated scheduling, logistics, and on-site operations to ensure smooth delegation participation.
- ✧ Provided interpretation, media support, and cross-cultural communication to facilitate team efficiency and international engagement.

***Intern*, World Federation of United Nations Associations (WFUNA)** 06.2023-08.2023

- ✧ Authored articles on SDG-related topics, emphasizing global energy and sustainability issues.
- ✧ Drafted opening speech manuscripts for international delegations, providing insights from an energy perspective.

***Office Administration*, Beijing Jiaotong University** 06.2021-07.2022

- ✧ Managed media publicity and art education projects, enhancing science popularization efforts.
- ✧ Supervised club management and art competition initiatives, fostering a collaborative student community.

***Trainee Designer,* Beijing Feb. 7th Locomotive Industries CO., LTD** 09.2020-12.2020

- ✧ Conducted R&D, design, and assembly of construction machinery and equipment.
- ✧ Utilized CAD software for drafting and completing design operations.

HONOR & CERTIFICATE

- 2022&2023&2024 Adlerbertska Foreign Student Hospitality Foundation awarded by Chalmers Tekniska Högskola
- 2023 Erasmus Foundation
- 2021 Outstanding Student Leader of Beijing awarded by Beijing Municipal Education Commission
- 2020 Honorable Mention Award for Mathematical Contest In Modelling
- 2019&2020 First-class Social Work Scholarship awarded by Beijing Jiaotong University
- 2018&2019&2020 Honorable Title of Outstanding Student Cadres awarded by Beijing Jiaotong University
- 2018 Silver Award of Beijing University Drama Festival awarded by Beijing Municipal Education Commission
- 2017 Utility Model Patent Bernoulli Comprehensive Demonstrator (CN 206541509 U)

PUBLICATION

- S. Jin and T. Thiringer, "Transport-Energy Integration Driven Pathways for Electromobility: A Swedish Case Study," *2025 10th Asia Conference on Power and Electrical Engineering (ACPEE)*, Beijing, China, 2025, 2676-2682, doi: 10.1109/ACPEE64358.2025.11041568.

REFERENCES

Torbjörn Thiringer	Professor, *Electrical Engineering*	*Chalmers Technology University*	torbjorn.thiringer@chalmers.se
Jiehua Lu	Professor, *Society Science*	*Peking University*	lujiehua@pku.edu.cn
Chundan Lin	Professor, *Physics & Engineering Management*	*China University of Petroleum*	linchundan@126.com

SKILLS&INTERESTS

Core Skills	Power system, RES, Flexibility Analysis, Energy Market, Battery modeling, AI & Machine learning, Speech Skill	
Language	English:	C1 Level (Tested by IELTS and GRE, and finished Bachelor's and Master's studies in English)
	Chinese & Korean:	Native proficiency
	Swedish & Deutsch & Italiano: Beginner level; actively learning with limited daily use	
Software	MATLAB, COMSOL, Simulink, PSCAD, PSpice, CAD, Python, ArcGIS, Origin, Microsoft Office,…	