Xiao Yang

: (+86) 18582380741 | : x.yang2@tue.nl | : fleaxiao.github.io
Ph.D. Candidate of Electrical Engineering | Eindhoven University of Technology
AI-Native Power Electronics Engineer | Electronic Design Automation | AI

EDUCATION

Eindhoven University of Technology — Eindhoven, The Netherlands
Ph.D. Electrical Engineering — Aug 2023 – Present
- Advisor: Guus Pemen, Dongsheng Yang
- Research topic: AI harness engineering in automatic power electronic hardware design

École Centrale de Lille — Lille, France
Diplôme d'Ingénieur — Sep 2018 - Jun 2023

Southwest Jiaotong University — Chengdu, China
M.Sc. Electrical Engineering — Sep 2020 - Jun 2023
- Advisor: Zhengyou He, Yong Li
- Research topic: Simultaneous wireless power and data transmission

B.Eng. Electrical Engineering and Automation — Aug 2016 - Jun 2020

HONOR

- Eiffel National Scholarship, French Ministry of Foreign Affairs
- ECCE Europe Travel Grant, IEEE Power Electronics Society
- Honorable Mention (Top 3 performance) in MagNet Challenge 2025, IEEE Power Electronics Society
- Google Cloud Research Credit Program, Google
- First Prize of Postgraduate Academic Scholarship, Southwest Jiaotong University
- First Prize of Undergraduate Academic Scholarship, Southwest Jiaotong University

RESEARCH

My research integrates state-of-the-art AI technologies (Agentic AI, Generative AI, PINNs, etc.) into the AI-Navie power electronics engineering workflow, enabling automated modeling and synthesis of magnetic components, semiconductor devices, and power converters.

I have published 10+ academic papers (7 as first author, 6 in IEEE Trans. Top journals) and 3 Chinese patents, all of which have been cited 150+ times, contributing to an H-index of 5. The selected publications are listed as follows:

Journal Papers

[J1] **X. Yang**, Y. Xiao, T. Li, D. Yang. "Synergistic physics-data constrained diffusion model for surface thermal management of press-pack IGCTs," ***IEEE Transactions on Industrial Informatics****, Early Access.* (IF = 9.8, SCI Q1 Top, First Author)

[J2] **X. Yang**, L. Shu, D. Yang. "Hierarchical physics-embedding neural network framework for 3D magnetic modeling of medium frequency transformers," ***IEEE Transactions on Power Electronics****,* vol. 40, no. 3, pp. 4486-4497, Mar. 2025. (IF = 7.1, SCI Q1 Top, First Author)

[J3] **X. Yang**, Y. Li, W. Sun, *et al.*, "A simultaneous power and data transfer technology using dual-resonance-band circuits for domino-resonator WPT systems," ***IEEE Transactions on Industrial Informatics****,* vol. 20, no. 1, pp. 269-279, Jan. 2024. (IF = 9.8, SCI Q1 Top, First Author)

[J4] **X. Yang**, Y. Li, J. Chen, *et al.*, "A cost-effective implementation of independent data and power transmission channels in wireless power transfer systems," ***IEEE Transactions on Circuits and Systems II: Express Briefs***, vol.69, no.3, pp.1532-1536, Mar. 2022. (IF = 4.6, SCI Q1 Top, First Author)

[J5] Y. Li, **X. Yang**, Wenjun Sun, *et al.*, "A simultaneous power and data transmission technology based on coil

multiplexing in domino-resonator WPT systems," ***IEEE Transactions on Power Electronics***, vol. 38, no. 3, pp. 2878-2883, March 2023. (IF = 7.1, SCI Q1, First Student Author)

Conference Proceedings

[C1] **X. Yang**, Y. Xiao, L. Shu, W. Taborsky, D. Yang, "Automatic Power Electronic PCB Layout Design Based on Generative AI: The Pathway Towards Next-Generation Hardware Compiler," *2025 Energy Conversion Congress & Expo Europe (ECCE Europe)*, Birmingham, United Kingdom, 2025. (First Author)

[C2] **X. Yang**, L. Shu, D. Yang. "Accurate and efficient magnetic modeling of medium-frequency transformers based on artificial neural network, " *2024 Energy Conversion Congress & Expo Europe (ECCE Europe)*, Darmstadt, Germany, 2024. (First Author)

[C3] **X. Yang**, *et al.*, "Full-size metal object detection in wireless power transfer systems using comb pattern sensing coil design," *2021 International Conference on Wireless Power Transfer (ICWPT 2021)*, Nanjing, China, 2021. (First Author)

[C4] W. Taborsky, **X. Yang**, D. Yang, *et al.*, "Geo2Field: A deterministic DDPM for accelerated magnetic field simulation in medium-frequency transformers," *2026 IEEE Applied Power Electronics Conference and Exposition (APEC)*, San Antonio, USA, 2026. (Presenter)

[C5] Y. Xiao, J. Fan, **X. Yang**, Y. Wu, Y. Wu, D. Yang, "Compact IGCT circuit model under high current transition using gradient-based parameters estimation," *2025 Energy Conversion Congress & Expo Europe (ECCE Europe)*, Birmingham, United Kingdom, 2025. (Coauthor)

WORKING EXPERIENCE

Texas Instruments Shanghai, China

Automatic Test Engineer Intern Jul 2022 - Aug 2022

- Automatic test: tested power analog IC TPS61299 by ETS-364 platform
- Qualification test: High Temperature Operating Life (HTOL) and biased Highly Accelerated Stress Test (bHAST)

Eaton Electric Shanghai, China

Hardware Engineer Intern Jul 2020 - Aug 2020

- 500 kW traction inverter project: double-pulse test of inverter drive board and thermal test of cooling system.
- Honor for special contribution

Schneider Electric Grenoble, France

Project Engineer Intern Jul 2019 - Aug 2019

- Assisted in managing and recording the production process of the transformer and breaker

PROJECT EXPERIENCE

Non-intrusive Grid Voltage Sensing Equipment Chengdu, China

Assistant Engineer Apr 2022 - Jun 2023

- Developed a non-intrusive voltage measurement research scheme
- Established a capacitive sensor circuit model

Inductive Power Transfer System in Automated Guided Vehicle Chengdu, China

Assistant Engineer Oct 2020 - Feb 2021

- Optimized the coupling mechanism structure and parameters of the two-channel power transfer system
- Improved system output efficiency (>85%), and improved receiver-side misalignment resistance (+/-2cm)

PROFESSIONAL SERVICE

Assistant project supervisor

- 3 TU/e Bachelor Final Projects (6 students), with an average project score of 8.5/10.0

Journal reviewer

- *IEEE Transactions on Industrial Informatics* (SCI Q1 Top)

- *IEEE Transactions on Industrial Electronics* (SCI Q1 Top)
- *IEEE Transactions on Power Electronics* (SCI Q1 Top)
- *IEEE Journal of Emerging and Selected Topics in Power Electronics* (SCI Q2 Top)
- *IEEE Journal of Emerging and Selected Topics in Industrial Electronics* (SCI Q2)
- *IEEE Open Journal of Power Electronics* (SCI Q3)
- *IET Intelligent Transport Systems* (SCI Q3)

Conference reviewer

- *IEEE Applied Power Electronics Conference and Exposition (APEC)*
- *European Conference on Power Electronics and Applications (ECCE Europe)*

LANGUAGE AND SKILL

- Software: MATLAB/Simulink, LTspice, KiCad, COMSOL Multiphysics, ANSYS Maxwell
- Programming: Python, Linux, Raspberry Pi
- Languages: English (Qualified, IELTS: 6.5/9.0); French (Advanced, DALF C1); Chinese (Native)