SHUYU ZHANG

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EDUCATION

University of California, Berkeley Aug. 2024–Present
Ph.D. in Electrical Engineering and Computer Sciences GPA: 4.00/4.00
Advisor: Prof. Robert Pilawa-Podgurski

Stanford University Sept. 2023–Jun. 2024
Master's Studies in Electrical Engineering; transferred to UC Berkeley

Huazhong University of Science and Technology Sept. 2019–Jun. 2023
B.Eng. in Electrical Engineering GPA: 3.95/4.00

INDUSTRY EXPERIENCE

NVIDIA Corporation May 2026–Aug. 2026
Ph.D. Research Intern, Circuits Research Group (CRG) *Santa Clara, CA*

RESEARCH EXPERIENCE

High-Performance Power Delivery for AI Infrastructure Aug. 2024–Present
Advisor: Prof. Robert Pilawa-Podgurski *UC Berkeley*

- Proposed i_{Lc}**-based control** for trans-inductor voltage regulators (TLVRs) and validated it on a multiphase buck converter and a hybrid switched-capacitor (HSC) converter. This work resulted in two published papers, multiple conference and industry presentations, and a U.S. provisional patent application.

Single-Stage 48-V-to-Core Voltage Regulators May 2023–Sept. 2023
Advisor: Prof. Yenan Chen *Zhejiang University*

- Designed and experimentally validated a 48-V-to-1-V, 240-A HSC voltage regulator.
- Designed a zero-voltage-switching HSC voltage regulator module (VRM).

Common-Mode EMI Suppression for EV Charger Applications Oct. 2022–May 2023
Advisor: Prof. Dong Jiang *Huazhong University of Science and Technology*

- Designed and implemented a hybrid flying-capacitor Vienna rectifier prototype with a new zero-common-mode-voltage (ZCMV) modulation scheme.

HONORS AND AWARDS

Berkeley EECS Fellowship — UC Berkeley EECS 2024
APEC Student Attendance Support — IEEE PELS, IEEE IAS, and PSMA 2024
Chiang Chen Overseas Graduate Fellowship — Chiang Chen Industrial Charity Foundation; US$50,000; one of 10 recipients selected in China 2023
Best Undergraduate Thesis Award — HUST; top 1% 2023
Sieyuan Electric Scholarship — Sieyuan Electric Co., Ltd. 2020, 2022
Outstanding Student Leader Scholarship — HUST 2021
HUST Technology Innovation Scholarship — HUST 2021
National Scholarship — Ministry of Education of China; top 0.2% 2020
Outstanding Undergraduate Student Award — HUST 2020

TEACHING EXPERIENCE

EECS 16B Introduction to Circuits & Devices Aug.–Dec. 2025
Graduate Student Instructor *UC Berkeley*

PROFESSIONAL SERVICE

Technical Reviewer
IEEE Transactions on Power Electronics (40+ reviews completed)
IEEE Applied Power Electronics Conference and Exposition (2024, 2025, 2026)
IEEE Energy Conversion Congress and Exposition (2025)

SELECTED PRESENTATIONS

2026 OCP Global Summit Oct. 2026
2026 IEEE Applied Power Electronics Conference and Exposition (APEC) Mar. 2026
2024 IEEE Applied Power Electronics Conference and Exposition (APEC) Feb. 2024

PUBLICATIONS

[1] **S. Zhang**, Y. Elasser, S. Kudva, R. Abramson, C. Lee, T. Gray, and R. C. N. Pilawa-Podgurski, "Analytical Model and Design Considerations of High-Pass Filtered AC Load Line Control for Multiphase Point-of-Load Converters," in *Proc. IEEE APEC*, 2027, to be published.

[2] N. Patle, H. Sambo, **S. Zhang**, and R. C. N. Pilawa-Podgurski, "Design and Performance Optimization of a 7,900-W/in^3 Switching-Bus Interleaved Doubler (SID) Converter for 48-V-to-12-V Fixed-Ratio Resonant Conversion," in *Proc. IEEE APEC*, 2027, to be published.

[3] J. Huang, N. Patle, E. Krause, **S. Zhang**, Y. Zhu, Y. Lu, and R. C. N. Pilawa-Podgurski, "A Symmetric Quad-Inductor Hybrid Dickson DC–DC Converter for Direct 48-V-to-PoL Power Delivery," in *Proc. IEEE APEC*, 2027, to be published.

[4] N. Patle, H. Sambo, **S. Zhang**, and R. C. N. Pilawa-Podgurski, "A Switching-Bus Interleaved Doubler (SID) Converter for Regulated 48-V-to-12-V Applications," in *Proc. IEEE COMPEL*, 2026.

[5] **S. Zhang**, Y. Zhu, N. Biesterfeld, and R. C. N. Pilawa-Podgurski, "Compensation-Winding-Current-Based Constant On-Time Control of Trans-Inductor Voltage Regulators (TLVRs)," in *Proc. IEEE APEC*, 2026.

[6] **S. Zhang**, Y. Zhu, N. Biesterfeld, and R. C. N. Pilawa-Podgurski, "Analysis and Implementation of a Series-Capacitor Zero-Bias Trans-Inductor Voltage Regulator," in *Proc. IEEE APEC*, 2026.

[7] **S. Zhang**, H. Liu, and Y. Chen, "Hybrid-Switched-Capacitor VRM with Zero-Voltage-Switching Intermediate Voltage Rails," in *Proc. IEEE APEC*, 2024.

[8] Y. Chen, H. Liu, and **S. Zhang**, "Hybrid-Switched-Capacitor VRM with Multifunctional Components," in *Proc. IEEE ECCE*, 2023.

[9] H. Liu, D. Jiang, **S. Zhang**, X. Zhao, and Z. Liu, "Zero Common-Mode Voltage Modulation for Flying-Capacitor-Based Vienna Rectifier With Consideration of Nonideal Factors," *IEEE Transactions on Industrial Electronics*, vol. 72, no. 2, pp. 1148–1158, 2025.

[10] H. Liu, X. Zhao, D. Jiang, M. Zhou, and **S. Zhang**, "Zero Common-Mode Voltage Modulation in Novel Flying-Capacitor Vienna Rectifier," in *Proc. ICPE–ECCE Asia*, 2023.

[11] H. Liu, D. Jiang, **S. Zhang**, X. Zhao, and J. Chen, "Spread Spectrum Modulation Strategy for Vienna Rectifiers to Reduce EMI and Switching Losses," in *Proc. IEEE PEAS*, 2023.

[12] L. Han, H. Liu, **S. Zhang**, and Y. Chen, "Two-Stage 48-V-to-16-V-to-1-V Hybrid-Switched-Capacitor Converter for High-Performance Computing," in *Proc. IEEE PEAS*, 2023.