

Zhi-Bo Liu

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XJTU AI Research
西安交通大学人工智能研究院

EDUCATIONS



Xi'an Jiaotong University, Xi'an, China

Ph.D. Student in CS, AI

09/2021 - Now



Peking University, Beijing, China

Visiting Student, Computer Vision

04/2017-11/2019



George Washington University, Washington, D.C., USA

Master of Science in Statistics

09/2014-12/2016



Huazhong Univ. of Science & Technology, Wuhan, China

Bachelor of Science in Applied Mathematics

09/2010-06/2014



WORK EXPERIENCES



Boyuu AI Research | Xi'an, China

Senior AI Researcher

12/2019-08/2021

- Participated in International Electrotechnical Commission(IEC) Standard Specification (TS) Drafting.
- Contributed to the State Grid Wuxi Electric Power Supply Company's science and technology project, independently completing the sixth chapter of the final technical report.



Center on Frontiers of Computing Studies | Peking University, Beijing, China

Student Intern

04/2017-11/2019

- Participated in research on Reinforcement Learning, focusing on Multi-Agent Deep Reinforcement Learning Systems. Conducted coding and model training using publicly available datasets.
- Collaborated with teams from Tsinghua University's Future Lab on AI Art research and projects. [demo](#)

PROJECTS IN PROGRESS

Non-intrusive Load Monitoring Model based on Bidirectional Encoder Representations from Transformers. 🎯 *Proceedings of the CSEE, Under Review*

- **Green AI**: Built a Non-Intrusive Load Monitoring (NILM) deep learning model in Pytorch based on bidirectional encoder representations from transformers (BERT). Trained & tested on publicly available dataset.

A Predictive Model for Steady-State Power Quality Indicators Based on Data Mining. Under Drafting

- **Green AI**: Built a prediction model for electric power quality indicators based on Vector Auto Regressive (VAR) Model. Trained and tested on collected dataset.


HistoGym: A Reinforcement Learning Environment for Histopathological Image Analysis. BIBM 2024 Under Review [github code](#)

- **Medical AI**: Built a Custom Farama Gymnasium environment using OpenSlide Python library for downstream task of whole slide image analysis. Paper writing is in progress.

From Patches to Policies: Reinforcement Learning for Whole Slide Image Analysis. AAAI 2025 Under Review

- **Medical AI**: Developed a RL model based on policy gradient method in order to solve gigapixel whole slide image classification task. Model training & testing are in progress.

PUBLICATIONS

Z. Liu, F. Gao and Y. Wang, A Generative Adversarial Network for AI-Aided Chair Design, 2019 IEEE Conference on Multimedia Information Processing and Retrieval (MIPR), San Jose, CA, USA, 2019, pp. 486-490, doi: 10.1109/MIPR.2019.00098.  [project page](#)

- Presented a deep neural network designed to enhance the human process of chair design, incorporating an image synthesis module and a super-resolution module. This work represents the first instance of a physical chair created with deep neural network assistance, effectively bridging the gap between AI and design.

J. Liu, Z. Liu. Analysis of Power Quality Evaluation Method Stipulated by IEC 62749: Assessment of power quality-characteristics of electricity supplied by pubic networks. High Power Converter Technology, 2016

- Analyzed various methods for evaluating power quality (PQ) and Electromagnetic Compatibility (EMC), concluding that under identical limitation values, PQ evaluation methods are stricter than those for EMC.

J. Liu, Z. Liu. Analysis for Active Power Filter (APF) Application Bottlenecks. Information Technology - Power Quality, 2012

- Investigated the bottlenecks in Active Power Filter (APF) applications and its response characteristics to dynamic harmonics. Conducted simulations to assess APF response to changes in dynamic harmonic sources.

RESEARCH INTERESTS & SKILLS

Medical AI, Green AI, AI Art, Reinforcement Learning, Generative Model, Statistical Learning

Coding Skills: Python, R, MATLAB, JavaScript. Pytorch, Bash, Latex, TensorFlow.

Language : Chinese: Native Speaker. English: Fluent (TOEFL 103, Test Date: Dec 2016)