

# JIAQI WANG

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Harbin Institute of Technology (Shenzhen) & Pengcheng Laboratory

## Education

- **Harbin Institute of Technology (Shenzhen) & Pengcheng Laboratory** Aug 2023 – Present  
*Ph.D. in Computer Science and Technology, Joint Program*  
Advised by Prof. Zhiguo Zhang and Prof. Zhengyu Ma  
Shenzhen, China
- **Jilin University** Sep 2020 – Jun 2023  
*M.Eng. in Control Science and Engineering*  
Advised by Prof. Wanzhong Chen  
Changchun, China
- **Northeast Electric Power University** Sep 2016 – Jun 2020  
*B.Eng. in Automation*  
Jilin, China

## Research Interests

Spiking neural networks, brain-inspired intelligence, temporal and sequential modeling, brain-computer interface, neural/speech signal decoding, and speech/language models.

## Selected Projects

- **Awesome Spiking Neural Networks**, initiator and second contributor, **600+ stars**. A curated SNN paper/code/resource list for the community.
- **SpikCommander**, [code](#). High-performance spiking Transformer for efficient speech command recognition.
- **S<sup>2</sup>M-Former**, [code](#). Spiking symmetric mixing Branchformer for brain auditory attention detection.
- **SpikeSCR**, [code](#). Efficient speech command recognition with SNNs and curriculum distillation.
- **CET-MAE**, [code](#). Contrastive EEG-text masked autoencoder for transferable EEG-to-text decoding representations.

## Publications

C=Conference, J=Journal, P=Patent

- [C.1] **SpikCommander: A High-performance Spiking Transformer with Multi-view Learning for Efficient Speech Command Recognition**  
*Jiaqi Wang, Liutao Yu, Xiongri Shen, Sihang Guo, Chenlin Zhou, Leilei Zhao, Yi Zhong, Zhiguo Zhang\*, Zhengyu Ma\**.  
AAAI 2026 Main Track. [Paper](#) | [Code](#)
- [C.2] **S<sup>2</sup>M-Former: Spiking Symmetric Mixing Branchformer for Brain Auditory Attention Detection**  
*Jiaqi Wang, Zhengyu Ma\*, Xiongri Shen, Chenlin Zhou, Leilei Zhao, Han Zhang, Yi Zhong, Siqi Cai, Zhenxi Song, Zhiguo Zhang\**.  
NeurIPS 2025 Main Track. [Paper](#) | [Code](#)
- [J.1] **Efficient Speech Command Recognition Leveraging Spiking Neural Network and Curriculum Learning-based Knowledge Distillation**  
*Jiaqi Wang, Liutao Yu, Liwei Huang, Chenlin Zhou, Han Zhang, Zhenxi Song, Min Zhang, Zhengyu Ma\*, Zhiguo Zhang\**.  
Neural Networks, 2025. [Paper](#) | [Code](#)
- [C.3] **Enhancing EEG-to-Text Decoding through Transferable Representations from Pre-trained Contrastive EEG-Text Masked Autoencoder**  
*Jiaqi Wang, Zhenxi Song\*, Zhengyu Ma, Xipeng Qiu, Min Zhang, Zhiguo Zhang\**.  
ACL 2024 Main Conference. [Paper](#) | [Code](#)
- [J.2] **A multi-classification algorithm based on multi-domain information fusion for motor imagery BCI**  
*Jiaqi Wang, Wanzhong Chen, Mingyang Li\**.  
Biomedical Signal Processing and Control, 2023. [Paper](#)
- [P.1] **A human-like robot motion system and control method based on human body posture control**  
*Jiaqi Wang, Wanzhong Chen, Xiao Zheng*.  
Granted Chinese Invention Patent, 2022. Patent No. ZL202110466880.1.
- [C.4] **Spikingformer: A Key Foundation Model for Spiking Neural Networks**  
*Chenlin Zhou, Liutao Yu, Zhaokun Zhou, Han Zhang, Jiaqi Wang (5th), Zhengyu Ma, Huihui Zhou, Yonghong Tian*.  
AAAI 2026 Oral. [Paper](#)
- [J.3] **BrainCSD: A Hierarchical Consistency-Driven MoE Foundation Model for Unified Connectome Synthesis and Multitask Brain Trait Prediction**  
*Xiongri Shen, Jiaqi Wang (2nd), Yi Zhong, Zhenxi Song, Leilei Zhao, Liling Li, Yichen Wei, Lingyan Liang, Shuqiang Wang, Baiying Lei, Demao Deng, Zhiguo Zhang*.  
Information Fusion, 2026. [Paper](#)
- [J.4] **Pattern-Aware Diffusion Synthesis of fMRI/dMRI with Tissue and Microstructural Refinement**  
*Xiongri Shen, Jiaqi Wang (2nd), Yi Zhong, Zhenxi Song, Leilei Zhao, Yichen Wei, Lingyan Liang, Shuqiang Wang, Baiying Lei, Demao Deng, Zhiguo Zhang*.  
Information Fusion, 2026. [Paper](#)

- [C.5] **BrainECHO: Semantic Brain Signal Decoding through Vector-Quantized Spectrogram Reconstruction for Whisper-Enhanced Text Generation**  
*Jilong Li, Zhenxi Song, **Jiaqi Wang (3rd)**, Meishan Zhang, Honghai Liu, Min Zhang, Zhiguo Zhang.*  
 ACL 2025 Findings. [Paper](#)
- [C.6] **Thread the Needle: Genomics-Guided Prompt-Bridged Attention Model for Survival Prediction of Glioma Based on MRI Images**  
*Yi Zhong, Xubin Zheng, Xiongri Shen, **Jiaqi Wang (4th)**, Leilei Zhao, Zhenxi Song, Zhiguo Zhang.*  
 MICCAI 2025.

## Preprints

- Winner-Take-All Spiking Transformer for Language Modeling. Chenlin Zhou, Sihang Guo, **Jiaqi Wang (3rd)**, et al. [arXiv](#).
- BiSpikCLM: Spiking Large Language Models with Causal Spiking Self-Attention and Spike-Form Knowledge Distillation. Sihang Guo, Chenlin Zhou, **Jiaqi Wang (3rd)**, et al. [arXiv](#).
- Adaptive Spiking Neurons for Vision and Language Modeling. Chenlin Zhou, Sihang Guo, **Jiaqi Wang (3rd)**, et al. [arXiv](#).
- Brain-Atlas-Guided Generative Counterfactual Attention for Explainable Cognitive Decline Diagnosis Using Multimodal Connectomes. Xiongri Shen, **Jiaqi Wang (2nd)**, et al. [arXiv](#).
- Temporal-adaptive Weight Quantization for Spiking Neural Networks. Han Zhang, Qingyan Meng, **Jiaqi Wang (3rd)**, Baiyu Chen, Zhengyu Ma, Xiaopeng Fan. [arXiv](#).

## Experience

- **Selected Industry Research Experience** 2026  
 Large-scale AI systems and real-world product scenarios.
- **AI Engineer Intern, Huawei ICT (Optic Line)** Jun 2022 – Aug 2022  
 Worked on 3D computer vision, FTTR-related system development, and point-cloud processing.

## Honors and Awards

- Invited participant, Xiaohongshu REDstar Top Talent Program Technical Salon, 2026
- Invited participant, Taobao/Taotian Star Program, 2026
- Qianxin Social Scholarship, only four awardees in Jilin University, 2023
- Excellent Master Graduate of Jilin University, Top 6%, 2023
- National Scholarship for Postgraduates, Top 6%, 2022
- Excellent Postgraduate of Jilin University, Top 4%, 2021
- Third Prize, “Huawei Cup” China Post-Graduate Mathematical Contest in Modeling, 2021
- Outstanding Graduate of Northeast Electric Power University, 2020

## Academic Services

**Conference Reviewer:** AAAI 2027; NeurIPS 2026; AAAI 2026; ACL ARR 2025–2026; ICLR 2025–2026; ICME 2025–2026; ACM MM 2024/2026; ICASSP 2023/2026.

**Journal Reviewer:** IEEE TCSVT; Neurocomputing; Neuromorphic Computing and Engineering; IEEE TNSRE; IEEE TIM; Biomedical Signal Processing and Control.