



# **The Second Young Scholars Workshop on Neuromorphic Computing**

**October 31- November 2, 2025**

**Xiamen, China**



# Welcoming Message from the Organizing Committee

Oct 31 - Nov 2, 2025 | Xiamen

Dear distinguished guests, respected colleagues, and young scholars,

It is our great pleasure to welcome you all to the Second Young Scholars Workshop on Neuromorphic Computing, here in the beautiful city of Xiamen.

This workshop stands at the intersection of inspiration and innovation, bringing together researchers, engineers, and pioneers from diverse disciplines to explore the latest advancements in neuromorphic computing. Over the next three days, we will engage in interdisciplinary discussions that span the full spectrum of neuromorphic research—from novel materials and devices, to brain-inspired algorithms and large-scale system integration. By bridging theory, hardware, and applications, this workshop provides a dynamic platform for the exchange of pioneering ideas and fosters collaborations that will accelerate progress in this fast-evolving field.

We invite all of you, especially our young scholars, to make the most of this opportunity: ask bold questions, seek novel perspectives, and build lasting connections. Let's together push the boundaries of neuromorphic computing, advance scientific understanding, and inspire the next generation of intelligent systems.

Thank you to all who have contributed to making this workshop possible. We wish everyone a fruitful and inspiring experience over the days ahead.

Welcome to Xiamen, and welcome to the Second Young Scholars Workshop on Neuromorphic Computing!

Jibin Wu, Yujie Wu, Qian Zheng, Huajin Tang

Organizing Committee

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## Workshop

# The Second Young Scholars Workshop on Neuromorphic Computing

### Organizing Committee:

Jibin Wu (The Hong Kong Polytechnic University)

Yujie Wu (The Hong Kong Polytechnic University)

Qian Zheng (Zhejiang University)

Huajin Tang (Zhejiang University)

### Technical Committee (in alphabetical order by the last name)

Siqi Cai (Harbin Institute of Technology, Shenzhen)

Congying Chu (Institute of Automation, Chinese Academy of Sciences)

Guozhang Chen (Peking University)

Yansong Chua (China Nanhu Academy of Electronics and Information Technology)

Lei Deng (Tsinghua University)

Xin Deng (Chongqing University of Posts and Telecommunications)

Shukai Duan (Southwest University)

Shi Gu (Zhejiang University)

Daqing Guo (University of Electronic Science and Technology of China)

Qinghai Guo (Huawei Technologies Co., Ltd)

## Workshop

### Technical Committee (in alphabetical order by the last name)

Yufei Guo (Intelligent Science & Technology Academy of CASIC)

Wanzeng Kong (Hangzhou Dianzi University)

Can Li (The University of Hong Kong)

Guoqi Li (Institute of Automation, Chinese Academy of Sciences)

Haizhou Li (The Chinese University of Hong Kong, Shenzhen)

Peng Lin (Zhejiang University)

Guisong Liu (Southwestern University of Finance and Economics)

Jizhao Liu (Lanzhou University)

Quanying Liu (Southern University of Science and Technology)

Yanfeng Lv (Institute of Automation, Chinese Academy of Sciences)

Ning Qiao (SynSense)

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Bailu Si (Beijing Normal University)

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Yan Wang (Sichuan University)

Qi Xu (Dalian University of Technology)

Feng Xia (RMIT University)

Xiurui Xie (University of Electronic Science and Technology)

Rui Yan (Zhejiang University of Technology)

Lei Yu (Wuhan University)

## Workshop

### Technical Committee (in alphabetical order by the last name)

Lixing Yu (Yunnan University)

Qiang Yu (Tianjin University)

Zhaofei Yu (Peking University)

Feifei Zhao (Institute of Automation, Chinese Academy of Sciences)

Malu Zhang (University of Electronic Science and Technology of China)

Tielin Zhang (Institute of Automation, Chinese Academy of Sciences)

Youhui Zhang (Tsinghua University)

Jun Zhou (University of Electronic Science and Technology of China)

## Workshop Agenda

Time	Session Chair	Activity	Location
Friday, Oct. 31, 2025			
10:30-18:00		Registration	Hotel Lobby
13:00-14:30	/	<b>Tutorial Speaker II: Guoqi Li, Distinguished Young Scholar, Institute of Automation, Chinese Academy of Sciences, China</b> Title: Brain-inspired Large Models	3F, Function Room 2
14:30-15:00		Coffee Break	
15:00-16:30	/	<b>Tutorial Speaker IV: Huajin Tang, Zhejiang University, China</b> Title: Towards Training Large-Scale High-Performance Spiking Neural Networks: Fundamentals and Advances	3F, Zijin Grand Ballroom B
18:00-20:00		Welcome Reception	1F, PALATE All Day Dining Restaurant
Saturday, Nov. 1, 2025			
13:30-15:00	<b>Jibin Wu,</b> The Hong Kong Polytechnic University, Hong Kong SAR, China	<b>Oral Presentations IV: Workshop on Neuromorphic Computing I</b> <b>Welcome Speech: Huajin Tang, Zhejiang University, China</b> <b>1. Invited Talk: Yansong Chua (China Nanhu Academy of Electronics and Information Technology, China)</b> <b>Talk Title: The Age of Large Models: The Path Forward for Brain-Inspired Intelligence</b> 69. Synaptic Delay Plasticity and Temporal Attention Enhance Temporal Classification Capability of Spiking Neural Networks Hangming Zhang; Qiang Yu 167. Spiking U-Net++: A Quantization-Adaptive Rate Encoding Based Spike Image Segmentation Framework Chenxi Zhao; Shi Gu ; De Ma ; Huajin Tang ; Zheng Qian; Gang Pan 105. NeuroPathNet: Dynamic Path Trajectory Learning for Brain Functional Connectivity Analysis Tianqi Guo; Liping Chen; Ciyuan Peng ; Jingjing Zhou; Jing Ren 124. SDAR-Net: A Low-Power Solution to EEG-based Auditory Attention Detection Zheyuan Lin; Sirui Li; Yuan Liao; Siqi Cai; Haizhou Li	3F, Function Room 3
17:00-18:00	/	Poster Session	3F, Zijin Grand Ballroom AB Corridor
19:00-21:00		Banquet	3F, Tianyuan Grand Ballroom



# Workshop Agenda

Time	Session Chair	Activity	Location
Sunday, Nov. 2, 2025			
08:00-12:00		Registration	Hotel Lobby
8:30-10:30	<b>Yujie Wu,</b> The Hong Kong Polytechnic University, Hong Kong SAR, China	<b>Oral Presentations VII: Workshop on Neuromorphic Computing II</b> <b>1. Invited Talk: Yu Qi (Zhejiang University, China)</b> <b>Talk Title: Human Motor Cortex Encodes Complex Handwriting Through a Sequence of Stable Neural States</b> 59. FSRNN: ANN-SNN Conversion of Full Spike-Driven RNNs for Energy-Efficient Digital Predistortion long chen; Han Ji; Xiaotian Song; Yanan Sun 62. Incorporating Hebbian Learning into Biologically Plausible Dendritic Learning Zhenyu Lei; Wenzhu Gu; Xiangmei Li; Jiake Wang; Shangce Gao 82. Multi-Modal Semantic Segmentation Based on Spike Encoding and Early Fusion with Events and Images Zhuxi Li; Qiugang Zhan; Ran Tao; Peiming Kan; Zhiguang Qin; Guisong Liu 83. A Spiking Transfer Learning Method for Event Camera Based on Structural Decoupling Peiming Kan; Qiugang Zhan; Ran Tao; Zhuxi Li; Zhiguang Qin; Guisong Liu 95. JQA: Joint Design of Hardware-Friendly Quantization and Efficient Accelerator for Spiking Neural Networks HanWen Liu; Kexin Shi; Wenyu Chen; Malu Zhang; Yang Yang 96. SEEND: A Spike-Based End-to-End Framework for Energy-Efficient Speaker Diarization Kexin Shi; Hanwen Liu; Jibin Wu; Wenyu Chen; Malu Zhang; Yang Yang 103. Memristive Dynamical Spiking Neural Networks with Spatiotemporal Heterogeneity Xinming Shi; Peng Zhou; Connlaoth McTaggart; Xin Yao	3F, Function Room 6
	<b>Qian Zheng,</b> Zhejiang University, China	<b>Oral Presentations VIII: Workshop on Neuromorphic Computing III</b> <b>1. Invited Talk: Quanying Liu (Southern University of Science and Technology, China)</b> <b>Talk Title: Artificial Intelligence as a Surrogate Brain</b> <b>2. Invited Talk: Sha Zhao (Zhejiang University, China)</b> <b>Talk Title: Towards Large-Scale Foundation Models for Non-Invasive Brain-Computer Interfaces</b> 144. When LLM Agents Disagree, Do Humans Mirror? Behavioral Comparisons on Moral Dilemmas Haotian Deng; Sitian Wang; Ruxin Wang; Chen Wei; Wei Xuetao; Quanying Liu 192. Deep Spiking Double Descent Natabara Máté Gyöngyössi; Béla János Szekeres; János Botzheim 187. Strategies for Crop Planting Optimization Under Multiple Factors Tinglan Jin; Weijun Zheng; Yushi Wu; Lei Chen 190. Time-Varying Low-Rank Recurrent Networks for Predicting and Interpreting Seizure Dynamics Jingzhe Lin; Ziwei Ou; Guangyu Yang; Weiting Sun; Zhichao Liang; Quanying Liu 219. Point AFNO-Transformer: Adaptive Frequency-Domain Attention for LiDAR Point Cloud Segmentation Haiyang Fu; Songdi Jiang; Yangfei Hou; Zichong Yan	3F, Function Room 3

## Workshop Agenda

Time	Session Chair	Activity	Location
Sunday, Nov. 2, 2025			
10:30-11:00	Coffee Break		
11:00-12:30	<b>Ran Cheng,</b> The Hong Kong Polytechnic University, Hong Kong SAR, China	<b>Young Scholars Forum: From First Signature Work to Sustainable Impact: Building a High-Impact Early-Career Research Program</b>  <b>Jing Liang, Zhengzhou University, China</b> <b>Yu Qi, Zhejiang University, China</b> <b>Chao Qian, Nanjing University, China</b> <b>Yujie Wu, The Hong Kong Polytechnic University, Hong Kong SAR, China</b> <b>Junchi Yan, Shanghai Jiao Tong University, China</b>	3F, Zijin Grand Ballroom AB
12:30-14:00	Lunch		1F, PALATE All Day Dining Restaurant

## Tutorial Speakers

### Brain-inspired Large Models

Location: 3F, Function Room 2    Time: Oct 31, 2025, 13:00pm-14:30pm



**Guoqi Li**

Distinguished Young Scholar

Institute of Automation, Chinese Academy of Sciences, China

#### Abstract

Current large models predominantly use the Transformer architecture and have rapidly expanded in scale following scaling laws. However, the Transformer's quadratic computational complexity — which grows dramatically with input sequence length — makes continuous scaling unsustainable. This challenge requires us to identify sustainable approaches for advancing AI systems toward general artificial intelligence. Drawing inspiration from the brain's information processing mechanisms, this report focuses on dendritic spiking neural networks. By integrating the presenter's recent research advancements, we clarify the core scientific challenges in establishing fundamental frameworks for next-generation brain-inspired general-purpose models, and explore innovative pathways to develop low-power AI systems through novel architectural designs.

#### Biography

Guoqi Li is currently a Professor in the Institute of Automation, Chinese Academy of Sciences (CASIA). He serves as the Deputy Director of the National Key Laboratory of Brain Cognition and Brain-inspired Intelligence and the Director of the Beijing Key Laboratory of General Brain-inspired Intelligence Large Models. He is a recipient of the National Science Fund for Distinguished Young Scholars. With over 200 publications in journals including Nature, Nature sister journals, Science family journals, and top-tier AI conferences, his work has garnered more than 17,000 citations. He has led over 30 major research projects, including Key Projects of the National Natural Science Foundation of China, Joint Key Projects, and Key R&D Programs of the Ministry of Science and Technology. He holds editorial board positions at IEEE Transactions on Neural Networks and Learning Systems (TNNLS), IEEE Transactions on Cognitive and Developmental Systems (TCDS), and the Journal of Tsinghua University (Science and Technology). His honors include the First Prize in Natural Science Award of the Chinese Association of Automation (CAA), ECCV Best Paper Award Nomination, Best Paper Award at the China Computing Conference, Beijing Distinguished Young Scholar, CAS Hundred Talents Program, DeepTech China Innovator in Intelligent Computing Technology and China Computing Youth Pioneer Award.

## Tutorial Speakers

# Towards Training Large-Scale High-Performance Spiking Neural Networks: Fundamentals and Advances

Location: 3F, Zijin Grand Ballroom B    Time: Oct 31, 2025, 15:00pm-16:30pm



**Huajin Tang**

Zhejiang University, China

### Abstract

Spiking neural networks (SNNs) offer advantages in low power consumption and high computational efficiency. However, due to the discontinuous and non-differentiable nature of their spike firing process, error backpropagation algorithms are difficult to directly apply to SNN training. Currently the surrogate gradient method is widely applied by employ approximate functions with fixed smoothing coefficients for end-to-end training. However, this approach inevitably introduces smoothing errors leading to gradient mismatch and limiting the network's convergence efficiency and generalization performance. This talk will introduce the fundamentals of SNNs and recent advances in pushing the performance and scale of spiking neural networks for various AI applications, such as event-based vision, reinforcement learning, robotics, etc.

### Biography

Prof. Huajin Tang is currently a professor with Zhejiang University, College of Computer Science and Technology, and The State Key Lab for Brain-Machine Intelligence, China. His research interests include neuromorphic computing, neuromorphic hardware and cognitive systems, robotic cognition, etc. He received a number of prestigious recognitions and awards, such as 2011 Role Model Award of Institute for Infocomm Research Singapore, 2016 IEEE Transactions on Neural Networks and Learning Systems Outstanding Paper Award, 2019 IEEE Computational Intelligence Magazine Outstanding Paper Award, 2023 Neural Networks Best Paper Award, and 2024 APNNS Outstanding Achievement Award, etc. Prof. Tang is the Editors-in-Chief of IEEE Transactions on Cognitive and Developmental Systems since 2022. Prof. Tang has served as an Associate Editor of IEEE Transactions on Neural Networks and Learning Systems, IEEE Transactions on Cognitive and Developmental Systems and Frontiers in Neuromorphic Engineering, Neural Networks, and Editorial Board Member for Frontiers in Robotics and AI. He was the General Co-Chair of IEEE CIS-RAM 2024, Program Chair of IEEE CIS-RAM (2015, 2017), and Chair of IEEE Symposium on Neuromorphic Cognitive Computing (2016-2020), and International Symposium on Neural Networks (2019). He is a Board of Governor member of International Neural Network Society since 2019.

## Workshop Speakers



### Yansong Chua

China Nanhu Academy of Electronics and Information Technology,  
China

### Title

**The Age of Large Models: The Path Forward for Brain-Inspired Intelligence**

### Abstract

This talk explores the evolving landscape of large language models (LLMs) through the lens of brain-inspired intelligence, highlighting the critical gaps between current approaches and the efficiency, adaptability, and reasoning capabilities of the human brains. Key differentiating innovations include energy-efficient spiking neural networks, brain-inspired linear attention mechanisms enabling long-range sequence processing, and hippocampus inspired retrieval-augmented generation. We briefly touch on the importance of symbolic reasoning; whereby new learning approaches are required to reconcile how continuous neural activities may give rise to discrete concepts—a mark of human-level intelligence. Applications such as the brain-inspired medical LLM was presented. Finally, we outline future directions emphasizing the co-design of hardware, software, and algorithms to realize human-level embodied intelligence, which is capable of logical reasoning, active perception, and social cognition. We hope to inspire more collaborative efforts in bridging AI with neuroscience to forge next-generation intelligent machines.

### Biography

Yansong Chua is the Chief Expert of China Electronics Technology Group (CETC) and Chief Expert of Nanhu Research Institute. He holds a Ph.D. in Biology from the University of Freiburg, Germany, and a Master of Computer Science from the National University of Singapore. He has been selected as a leading talent in the “National Thousand Talents Program” and has participated in the National Key R&D Program “Brain Science and Brain-Like Intelligence” under the Ministry of Science and Technology’s Science and Technology Innovation 2030 Agenda, serving as the leader for Project 2 and a key contributor to Project 6. He has engaged in the State-owned Assets Supervision and Administration Commission (SASAC) major initiative to foster future industries in brain-like computing, and has been involved in the top-level design and coordinated implementation of the “High-Performance Brain-Inspired Computing Chips and Basic Software” project, which was elevated from a local Science and Technology Commission program to a national key project. He has spearheaded major projects, such as “Constructing a Digital Brain via Large-Scale Brain Simulation”, and established original technology sources based on breakthroughs in “Brain Science and Brain-Like Research”. Executed SASAC and Science and Technology Commission innovation and industrialisation tasks, planned the top-level layout for brain-like computing, and published over 40 high-quality papers in brain science and brain-like research. He has collaborated with State Grid to launch the power industry’s first self-controllable, heterogeneous integrated brain-like computing platform and intelligent agent, capable of supporting full-scenario applications, including panoramic power inspection, equipment maintenance, and grid regulation. He has released China’s first brain-inspired medical large model, “NaoQi-SuWen” at the 2024 World Internet Conference.

## Workshop Speakers



**Quanying Liu**

Southern University of Science and Technology, China

### Title

**Artificial Intelligence as a Surrogate Brain**

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### Abstract

The brain is a dynamic system, characterized by intricate spatiotemporal dynamics that underpin cognitive functions and behaviors. However, the explicit formula and mechanism of this dynamic system remain elusive, thus necessitating the construction of brain dynamics models and the resolution of the inverse problem. In this talk, I will first present a data-driven approach from a self-supervised learning perspective. This approach involves training an artificial intelligence (AI) model to learn the dynamics of the brain by predicting the future from the past. The trained AI model serves as a surrogate brain. By conducting virtual perturbation experiments on this surrogate brain, we can obtain a whole-brain effective connectome. This effective connectome reflects the intensity, directionality, and excitatory-inhibitory characteristics of the brain's information flow, as well as the causal relationships between different brain regions. It thereby provides guidance for the selection of brain region targets in neuromodulation. Furthermore, I will introduce a surrogate brain-guided optimal control framework for controlling biological neural dynamics. We have validated this framework through experiments on in vitro neurons, which suggest that the closed-loop electrical stimulation designed with our framework can effectively achieve the control goals. Our framework paves new ways for the personalized treatment of brain diseases, the enhancement of brain functions, and the regulation of behavior.

### Biography

Dr. Quanying Liu is an associate professor at Department of Biomedical Engineering, Southern University of Science and Technology (SUSTech), PI, the head of Neural Computing and Control laboratory (NCC lab). She received the B.S. degree in electrical engineering in 2010 and the M.S. degree in computer science at Lanzhou University, in 2013. After receiving her Ph.D. degree in biomedical engineering at ETH Zurich in 2017, she became a postdoctoral research fellow at CalTech. Quanying's main research interests are bridging human intelligence and artificial intelligence. She builds AI surrogate brain to model the neural dynamical system by self-supervised learning on multi-modal neural data (e.g., EEG sources, fMRI, ECoG, SEEG), and applies control theory to manipulate the brain network dynamics (via visual stimuli, or DBS, TES, TMS).

## Workshop Speakers



**Yu Qi**

Zhejiang University, China

### Title

**Human Motor Cortex Encodes Complex Handwriting Through a Sequence of Stable Neural States**

### Abstract

How the human motor cortex (MC) orchestrates sophisticated sequences of fine movements such as handwriting remains a puzzle. Here, we investigate this question through Utah array recordings from human MC during imagined handwriting of Chinese characters. We find that MC programs the writing of complicated characters by sequencing a small set of stable neural states, which control the writing of a fragment of a stroke. By building models that can automatically infer the primitive states and implement state-dependent directional tuning, we can significantly better explain the firing pattern of individual neurons, and reconstruct recognizable handwriting trajectories with 84% improvement compared with baseline models. Our findings unveil that skilled and sophisticated movements are programmed through state-specific neural configurations.

### Biography

Yu Qi is a tenure-track professor and principal investigator at the State Key Lab of Brain-Machine Intelligence, the MOE Frontier Science Center for Brain Science and Brain-machine Integration, Zhejiang University. Her research interests include brain-computer interface, artificial intelligence, and brain-inspired computing. She aims to construct neural decoding algorithms and systems for high-performance brain-computer interfaces. Her representative studies were published in Nature human behaviours, NeurIPS, ICML, IEEE Trans. on BME, and IEEE Trans. on NSRE.

## Workshop Speakers



**Sha Zhao**

Zhejiang University, China

### Title

**Towards Large-Scale Foundation Models for Non-Invasive Brain-Computer Interfaces**

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### Abstract

Non-invasive brain-computer interfaces (BCIs) establish direct communication pathways between the brain and external devices through safe, non-invasive neural sensing technologies, demonstrating significant potential in brain-computer interaction, mental state assessment, and intervention. Inspired by the technical roadmap of large language models, recent years have witnessed the emergence of large-scale foundation models for non-invasive BCIs. The core idea is to learn unified neural representations from multi-source brain data, thereby mitigating generalization challenges in brain state decoding caused by individual physiological differences, device heterogeneity, and environmental variability. This presentation will systematically introduce our preliminary explorations and practical progress in constructing large-scale foundation models for non-invasive BCIs, followed by an in-depth discussion of current core difficulties and key challenges for future development.

### Biography

Sha Zhao is a Professor and Doctoral Supervisor at the College of Computer Science and Technology / The State Key Lab of Brain-Machine Intelligence, Zhejiang University. She also serves as the Deputy Secretary-General of the CCF Technical Committee on Pervasive Computing. Her research focuses on Brain-Computer Interfaces and Artificial Intelligence, with an emphasis on non-invasive neural signal decoding and closed-loop regulation. She has published over 50 high-quality papers and has received five Best Paper/Award honors, including the ACM UbiComp Best Paper Award (CCF-A; first-authored and the first from China). In 2022, she was honored with the ACM Hangzhou Rising Star Award. She has led several prestigious research projects, including grants from the National Natural Science Foundation of China (General and Youth Programs), the Zhejiang Provincial Natural Science Foundation (Key Program), and sub-projects of STI 2030 Major Projects. She actively contributes to the academic community as a Program Committee Member for top-tier conferences such as ICLR and NeurIPS, and as a reviewer for leading international journals including TCDS, TNSRE, and JBHI.



## Young Scholars Forum

### From First Signature Work to Sustainable Impact: Building a High-Impact Early-Career Research Program

Location: 3F, Zijin Grand Ballroom AB    Time: Nov. 2, 2025, 11:00am-12:30pm

The Young Researchers Forum provides a platform for emerging leaders in computational intelligence, machine learning, brain-inspired computing, and nature-inspired optimization to share forward-looking perspectives on the future of AI. As the field moves rapidly toward integrating large-scale models, neuromorphic architectures, interpretable systems, and data-efficient learning, early- and mid-career researchers are at the forefront of driving these transformations.

This interactive session will explore how new paradigms, e.g., neuro-symbolic reasoning, bio-inspired algorithms, cross-domain transfer, and embodied intelligence, are reshaping both fundamental research and practical applications. Discussions will address the latest challenges and opportunities in reproducibility, ethical AI, and open science, as well as strategies for building impactful collaborations in an increasingly interdisciplinary landscape. Attendees will gain first-hand insights into the directions that will shape the next decade of machine intelligence and nature-inspired computing.

#### Panelists:

Jing Liang, Zhengzhou University, China

Yu Qi, Zhejiang University, China

Chao Qian, Nanjing University, China

Yujie Wu, The Hong Kong Polytechnic University, Hong Kong SAR, China

Junchi Yan, Shanghai Jiao Tong University, China

#### Moderator:

**Ran Cheng**

The Hong Kong Polytechnic University, Hong Kong SAR, China

## Poster Papers

Paper ID	Authors	Title
18	Shimin Zhang; Ziyuan Ye; Yinsong Yan; Zeyang Song; Yujie Wu; Jibin Wu	KoopSTD: Reliable Similarity Analysis between Dynamical Systems via Approximating Koopman Spectrum with Timescale Decoupling
21	Shuo Chen; Zeshi Liu; Haihang You	Maximizing Energy Efficiency in Spiking Neural Networks: A Dynamic Joint Pruning Framework
23	Yang Qi; Zhichao Zhu	Stochastic Computing with Spiking Neural Networks
35	Hanle Zheng; Xujie Han; Zegang Peng; Zhuo Zou; Xilin Wang; Jibin Wu; Hao Guo; Lei Deng	EventDiff: A Unified and Efficient Diffusion Model Framework for Event-based Video Frame Interpolation
85	Wuque Cai; Hongze Sun; Qianqian Liao; Jiayi He; Duo Chen ; Dezhong Yao; Daqing Guo	Brain-Inspired Metric Learning Based on Spiking Prototypes
87	Lee Seng Hong; Zheng Hanle; Deng Lei	Coupling Motor Primitives for Biomimetic Legged Locomotion with Enhanced Adaptability and Robustness
88	Zhong Zheng, Lei Deng, Jing Wei, Hao Guo	Modeling Macroscopic Brain Dynamics with Brain-inspired Computing Architecture
91	Yang Li; Yan Wang	Flipping Time: A Novel Data Augmentation Strategy for Spiking Neural Networks
101	Yancheng Zhou; Lei Deng; Yujie Wu	Anchoring Attractor Dynamics in Discrete Feedforward: A Differentiable Hybrid Neural Network for Continuous Object Tracking
113	Changping Wang; Shi Gu; De Ma; Huajin Tang; Qian Zheng; Gang Pan	Spiking Neuron as Sparse Attention for Long-Term Memory Tasks
126	Yu Xiao; Peng Chen; Peng Lin; Gang Pan	Bio-plausible Neuron For Efficient Neuromorphic Computing with Dynamical Neural Behaviors
164	Mingyuan Lin	Non-Uniform Exposure Imaging via Neuromorphic Shutter Control
172	Zihan Huang; Wei Fang; Tong Bu; Peng Xue; Zecheng Hao; Wenxuan Liu; Yuanhong Tang; Zhaofei Yu; Tiejun Huang	Differential Coding for Training-Free ANN-to-SNN Conversion
176	Siyao Zhang; En Lin; Huajin Tang	Hybrid Where-What Neural Decoder: Approximating Bayesian Inference for Real-Time Spike-Train Reconstruction
182	Jiquan Wang; Sha Zhao; Zhiling Luo; Yangxuan Zhou; Haiteng Jiang; Shijian Li; Tao Li; Gang Pan	CBraMod: A Criss-Cross Brain Foundation Model for EEG Decoding
199	Chenxiang Ma; Xinyi Chen; Kay Chen Tan; Jibin Wu	Spatio-Temporal Decoupled Learning for Spiking Neural Networks

## Organizer

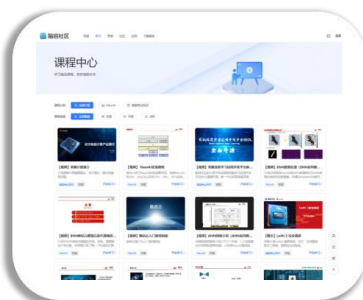
脑启平台是由中国神经科学学会类脑智能分会、清华类脑中心及十余家科研机构与领军企业共同发起。脑启社区矢志深耕于类脑知识普及推广、类脑资源开放共享、类脑技术交流培训以及类脑活动策划组织，通过为开发者全力赋能，加速推进类脑智能生态建设。

2024年7月，脑启社区正式上线。在合作伙伴与志愿者的携手运营下，已构建起完整资源体系：平台现拥有5套核心类脑开源工具，包括 NeurAI 异构融合框架、BIDL 类脑深度学习应用开发平台、Mesha 分布式大模型训练框架等；类脑知识库涵盖 NeurAI、类脑专业知识、灵汐产品介绍3大领域，提供40+个视频与学习文档，形成初、中、高级阶梯式学习路径；累计上架覆盖电力、交通、安防等领域38个数据集与ANN、SNN、脑仿真等领域的11个模型，为开发者提供充足技术支撑。此外，社区已上线10多个类脑标杆应用案例，包括类脑智慧农业示范项目、国内首个类脑医疗大模型“脑启-素问”、电力行业“类脑计算平台及智能体”等。

脑启社区通过“线上+线下”多种宣传渠道与丰富活动扩大生态影响力。如举办脑启社区类脑智能创新大赛、与CSDN等知名开发者社区合作打造站内社区、举办线上类脑主题直播、定期打造线下高校宣讲等。目前，脑启社区注册用户达8000+人，CSDN子网站成员达17000+人。目前脑启社区2025第二届类脑智能创新大赛正推进中，精彩赛况敬请关注。如需了解更多详情，可访问脑启社区官网。



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## Organizer

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