Yihan Lin

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Education Experience

9/2020~ Ph.D. Candidate **Tsinghua University**
Center for Brain-Inspired Computing Research
Department of Precision Instrument

9/2016~ Undergraduate student (B.S. degree) | **GPA: 3.85/4** **Tsinghua University**
7/2020 Major in Instruments Science and Technology
Department of Precision Instrument **Rank: 2/62**

9/2018~ Minor Degree in CS | **GPA: 3.91/4** **Tsinghua University**
7/2020 Department of Computer Science and Technology

Research Interests

- Brain-inspired Vision Sensing-Perception System

Develop imaging, perception, and inference system based on brain-inspired complementary vision sensors and adavanced optical system for low-latency high-performance embodied intelligence and scientific imaging.

- Brain-inspired Learning Theorem

Propose the visual primitive-based representation theorem inspired by the human visual system, guiding adaptive visual applications in open extreme environments. Investigate efficient training of brain-inspired spike-based learning algorithms.

- Low-level Computer Vision Algorithms

Investigate artificial intelligence-based image signal processing and low-level visual algorithms for multimodal multi-pathway data fusion.

Publications

1. Yang Z†, Wang T†, **Lin Y**†, et al, and Luping Shi, A Vision Sensor Chip with Complementary Pathways for Open-world Sensing, ***Nature***, 30 May, 2024. (**Cover paper**)
2. **Lin Y**, et al. Rethinking Pretraining as a Bridge From ANNs to SNNs." ***IEEE Transactions on Neural Networks and Learning Systems,*** vol. 35, no. 7, pp. 9054-9067, July 2024
3. **Lin Y**†, Sun J†, et al., Spatiotemporal Input Control: Leveraging Temporal Variation in Network Dynamics, ***IEEE/CAA Journal of Automatica Sinica***, vol. 9, no. 4, pp. 635-651, April 2022.
4. He L†, Xu Y†, He W†,**Lin Y**†, et al., Network Model with Internal Complexity Bridges Artificial Intelligence and Neuroscience, ***Nature Computational Science***, 4, 584–599 (2024).
5. **Lin Y**, Ding W, Qiang S, et al. ES-ImageNet: A Million Event-Stream Classification Dataset for Spiking Neural Networks. ***Frontiers in Neuroscience***, 2021: 1546.
6. Wu Z, Zhang H, **Lin Y**. et al. LIAF-Net: Leaky Integrate and Analog Fire Network for Lightweight and Efficient Spatiotemporal Information Processing. 2021, ***IEEE Transactions on Neural Networks and Learning Systems,*** PP(99):1-14.

Work Experience

8/2021~now	Intern ISP engineer in Lynxi co., Beijing.
7/2018~now	Research Assistant of CBICR in THU.
6/2023~8/2023	Intern computer vision algorithm engineer in Yealink Co., Xiamen.
9/2020~2/2021	Teaching Assistant for the class *Computer principle and Application.*
7/2019~9/2019	Research Assistant of IoF laboratory in NTU.

Social Activities

9/2019~6/2020	Chairman of Student Association for science and technology of DPI, Tsinghua University
9/2018~6/2019	Vice Chairman of Student Association for science and technology of DPI, Tsinghua University.
1/2018~2/2018	Team leader of 'Coal to Gas' research team in Wangdu, Hebei

	Province, P. R. China
9/2017~6/2018	Director of the office of Fujian Cultural Exchange Association of Tsinghua University.
1/2018~2/2018	Team leader of research team of targeted poverty alleviation in Ninghua, Fujian Province, P. R, China.

Honors & Awards

10/2023	Scholarship for Excellence in Social Activitiy, THU
10/2023	Comprehensive first-class scholarship for PhD studentss, THU
10/2022	Comprehensive first-class scholarship for PhD Candidates, THU
10/2021	Comprehensive second-class scholarship for PhD students, THU
6/2020	Scholarship for future scholars **(Top 3%),** THU
6/2020	Outstanding graduates of Beijing
6/2020	Outstanding graduates of Tsinghua University **(Top 2%),** THU
6/2020	Outstanding contribution award for graduates of Department of Precision Instrument**,** THU
10/2019	Scholarship for Excellent Student work **,** THU
10/2019	XCMG scholarship **(Top 1%),** THU
10/2019	Scholarship for Comprehensive Excellence **,** THU
12/2018	Second prize of HuaLuoGeng cup mathematical modeling contest of Tsinghua University
10/2018	Science and Technology Innovation Excellence Award**,** THU
10/2018	National scholarship **(Top 2%)**
07/2018	Second prize of the 34th national optoelectronic Design Competition
10/2017	Scholarship for Social practice Excellence **,** THU
10/2017	Scholarship for Volunteer public welfare Excellence **,** THU
10/2017	Scholarship for Comprehensive Excellence **,** THU

Certificates and Skills

Language	English (CET4/CET6)
Computer	Python and Deep Learning Frameworks (Pytorch, SpikingJelly, For data science), Software enginering(C++/Java/Python),CUDA development