

# HUI(NORBERT) ZHENG

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<https://norbertzheng.github.io>

## RESEARCH INTERESTS

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- **Machine Learning:** Data Mining; Brain-Computer Interface; Computational Neuroscience

## EDUCATION

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**Peking University, Beijing, China**

Sept. 2021 - Jun. 2026 (expected)

*Ph.D. in Integrated Life Sciences (physics)*

- **Advisor:** Dr. Yunzhe Liu

**Wuhan University, Wuhan, China**

Sept. 2017 - Jun. 2021

*B.E. in Computer Science (with honors)*

- **GPA:** 3.84/4.00(92.1/100)
- **Rank:** 2/32(selected from 363 students in School of Computer Science, Wuhan University)
- **Exchange:** Visiting Student at University of California, Berkeley(2019 summer)

## PUBLICATIONS

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\* indicates equal contribution.

- **Hui Zheng\***, Zhongtao Chen\*, Haiteng Wang, Jianyang Zhou, Lin Zheng, Peiyang Lin and Yunzhe Liu, "SI-SD: Sleep Interpreter through awake-guided cross-subject Semantic Decoding," in submission to IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2025.
- Zhongtao Chen\*, **Hui Zheng\***, Jianyang Zhou\*, Lin Zheng\*, Peiyang Lin, Haiteng Wang, Raymond Dolan, Tim Behrens and Yunzhe Liu, "Interpreting Sleep Activity Through Neural Contrastive Learning," in submission to Nature Neuroscience, 2025.
- **Hui Zheng\***, Haiteng Wang\*, Weibang Jiang, Zhongtao Chen, Li He, Peiyang Lin, Penghu Wei, Guoguang Zhao and Yunzhe Liu, "Du-IN: Discrete units-guided mask modeling for decoding speech from Intracranial Neural Signals," in Advances in Neural Information Processing Systems (NeurIPS), 2024.
- Wenquan Xu, Haoyu Song, Linyang Hou, **Hui Zheng**, Xinggong Zhang, Chuwen Zhang, Wei Hu, Yi Wang, Bin Liu, "SODA: Similar 3D Object Detection Accelerator at Network Edge for Autonomous Driving," in IEEE International Conference on Computer Communications (INFOCOM), 2021.
- Yunzhe Li\*, **Hui Zheng\***, He Zhu\*, Haojun Ai and Xiaowei Dong, "Cross-People Mobile-Phone Based Airwriting Character Recognition," in International Conference on Pattern Recognition (ICPR), 2020.

## RESEARCH EXPERIENCE

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**Peking University, Beijing, China**

Jan. 2022 - Dec. 2022

Research Assistant

Advisor: Dr. James Whittington and Dr. Yunzhe Liu

- Research the role of replay for memory consolidation.
- Build a machine replicate the replay observed in both human and rodent.

**Peking University, Beijing, China**

Mar. 2021 - Aug. 2021

Research Assistant

Advisor: Dr. Si Wu

- Researched the global to local information processing.
- Analyzed the dynamics of the neural network model with gap junction.

**Tsinghua University, Beijing, China**

May. 2020 - Aug. 2020

Research Assistant

Advisor: Dr. Bin Liu

- Researched the real-time processing of autonomous driving in the Internet of Vehicles.
- Designed efficient algorithms for the novel TCAM-NMC in-network accelerator, which accelerates the MEC-assisted similar 3D object detection for autonomous driving.

**Wuhan University, Wuhan, China**

Feb. 2020 - Apr. 2020

Research Assistant

Advisor: Dr. Haojun Ai

- Researched transfer learning in Air-Writing.
- Developed a system that could transfer between different people.

## AWARDS AND HONORS

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Outstanding Graduate ( <b>12 out of 127, 10%</b> ), Wuhan University	Apr. 2021
National Scholarship, Wuhan University	Oct. 2020
Excellent Student Scholarship ( <b>Rank: 1/32</b> ), Wuhan University	Oct. 2020
National Second Prize of FPGA Innovation Design Competition, China	Dec. 2019
National Second Prize of Intelligent Robot Fighting Competition, China	Oct. 2019
Excellent Student Scholarship ( <b>Rank: 4/32</b> ), Wuhan University	Oct. 2019
Excellent Student Scholarship ( <b>Rank: 8/32</b> ), Wuhan University	Oct. 2018
Freshman Scholarship, Wuhan University	Oct. 2017