

Hanrui Li

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EDUCATION

- **Changchun University of Science and Technology** Jilin, China
Bachelor of Science, Major in Microelectronics Science and Engineering; GPA: 3.62(top 5%) Sept. 2018 - June. 2022
- **Peking University** Beijing, China
Summer camp, Integrated Circuit Design; excellent internship July. 2020 - July 2020
- **Westlake University** Zhejiang, China
Visiting research student; Mohamad Sawan's lab(Chair Professor, FIEEE, FCAE) June. 2021 - April. 2022
- **King Abdullah University of Science and Technology** Jeddah, Kingdom of Saudi Arabia
PhD candidate; Nazeek El-Atab's lab September. 2022 - Now

RESEARCH EXPERIENCE

- **Emerging non-volatile memory and neuromorphic computing** Current Project
Advisers: Nazeek Elatab Sep. 2022 - Now
 - Fabrication of 2D material based memristor
 - SNN-related algorithm and new applications for memory device
 - Device simulation via TCAD
- **Brain-machine interfaces and neuromorphic engineering** Research Project
Advisers: Mohamad Sawan(Chair Professor,FIEEE,FCAE,FEIC) June. 2021 - April. 2022
 - Biosignal analysis and processing (ECG, EMG, EEG)
 - Machine learning and hardware co-design (FPGA based)
 - Build a full loop biosignal analysis system

PUBLICATION

- **Li H**, Lone A H, Tian F, et al. Novel Knowledge Distillation to Improve Training Accuracy of Spin-based SNN[C]//2023 IEEE 5th International Conference on Artificial Intelligence Circuits and Systems (AICAS). (Unpublished work)
- Ansari M H R, **Li H**, El-Atab N. Vertically Stacked Nanosheet FET: Charge-Trapping Memory and Synapse With Linear Weight Adjustability for Neuromorphic Computing Applications[J]. IEEE Transactions on Electron Devices, 2023.
- Lone A H, **Li H**, El-Atab N, et al. Voltage Gated Domain Wall Magnetic Tunnel Junction-based Spiking Convolutional Neural Network[J]. arXiv preprint arXiv:2212.09444, 2022.
- **Li H**, Wang J, Zhao S, et al. Real-time Biosignal Recording and Machine-Learning Analysis System[C]//2022 IEEE 4th International Conference on Artificial Intelligence Circuits and Systems (AICAS). IEEE, 2022: 427-430.
- CN Utility Patent: **Li H**, Wei C, Material transporter for microelectronic products within the workshop

SKILLS SUMMARY

- **Tools:** Python, Matlab, C++, Vivado, TCAD, MS Office Suite, Microelectronics fabrication
- **Frameworks:** Pytorch, Tensorflow, Pyqt5, machine learning, digital circuit design, etc
- **Platforms:** Linux, Web, Windows, Raspberry