

Haozhe (Hank) Si

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Research Interests

COMPUTER VISIONS: Vision-language Foundation Models

MACHINE LEARNING: OOD Generalization, Parameter Efficient Transfer Learning

Education

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

URBANA, IL, UNITED STATES

Ph.D., Electrical and Computer Engineering (GPA: 4.0)

Fall 2022-Present

- Advisor: Prof. Han Zhao

Bachelor of Science, Computer Engineering (GPA: 3.97)

Fall 2018-Fall 2021

Publications

(* indicates equal contribution.)

- [1] **H. Si**, B. Zhao, D. Wang, M. Chen, Y. Gao, Z. Wang, X. Li, “Fully Self-Supervised Depth Estimation from Defocus Clue”. In *Proceedings of the Computer Vision and Pattern Recognition (CVPR 2023)*
- [2] H. Wang, **H. Si**, B. Li, H. Zhao, “Provable domain generalization via invariant-feature subspace recovery”. In *Proceedings of the International Conference on Machine Learning (ICML 2022)*
- [3] H. Wang*, **H. Si***, H. Shao, H. Zhao, “Enhancing Compositional Generalization via Compositional Feature Alignment”. Under Review for *International Conference on Learning Representations (ICLR 2024)*
- [4] H. Wang*, G. Balasubramaniam*, **H. Si**, B. Li, H. Zhao, “Invariant-Feature Subspace Recovery: A New Class of Provable Domain Generalization Algorithms”. Under Review for *Journal of Machine Learning Research (JMLR)*

Research Experiences

IBM-IL DISCOVERY ACCELERATOR INSTITUTE (IIDAI)

Aug. 2023-Present

Research Assistant. With Prof. Han Zhao and Dr. Hendrick Hamann.

- Conducting research on foundation models for spatiotemporal and multi-modal geospatial data.

SHANGHAI AI LAB

May. 2023-Present

Research Intern. With Prof. Bin Zhao.

- Conducting research on Visual Grounding (VG) from Unmanned Aerial Vehicle (UAV) view using Vision-Language Models.

SHANGHAI AI LAB

Mar. 2022-Sep. 2022

Research Intern. With Prof. Bin Zhao.

- Conducted research on fully self-supervised Depth from Defocus (DfD).

VOKATECH, SHANGHAI JIAO TONG UNIVERSITY

May. 2021-Oct. 2021

Undergraduate Researcher.

- Conducted research on few-shot Neural Radiance Field (NeRF).

THE FORWARD LAB, UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Jan. 2021-May. 2021

Undergraduate Researcher. With Prof. Kevin Chen-Chuan Chang.

- Conducted research on ranking algorithm for academic keyword search.

Service

REVIEWER

- Advances in Neural Information Processing Systems (NeurIPS) 2023
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2023

Honors

- James Scholar, the Grainger College of Engineering, University of Illinois
- The O. Thomas and Martha S. Purl Scholarship
- Highest Honors at Graduation, the Grainger College of Engineering, University of Illinois

Teaching Experience

- ECE 385: Digital Systems Laboratory

Spring 2023, Fall 2023