

Zifan Liu

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EDUCATION

University of Wisconsin-Madison

Ph.D. Student in Computer Science; GPA: 4.0/4.0

Madison, WI

Sep. 2018 – May. 2023 (expected)

Shanghai Jiao Tong University

B.S. in Computer Science; GPA: 3.92/4.3; Rank: 8/151

Shanghai, China

Sep. 2014 – Jun. 2018

EXPERIENCE

Research Assistant

University of Wisconsin-Madison, Madison, WI

May. 2019 – Present

Advisor: Prof. Theodoros Rekatsinas

- Contributed to precise and thorough research in Data Management and Robust Statistics.
- Accurately provided an information-theoretic analysis of robust mean estimation under coordinate-level corruption for structured data, demonstrated through the publication “Robust Mean Estimation under Coordinate-level Corruption with Missing Entries”.
- Effectively designed and developed a self-supervised outlier detection system, Picket, to help significantly improve the robustness of machine learning pipelines for tabular data, beating the baselines by 15% on average in the detection of random, systematic and adversarial corruptions.

Research Assistant

Shanghai Jiao Tong University, Shanghai, China

May. 2016 – May. 2018

Advisor: Prof. Hongzi Zhu

- Successfully designed and built an indoor positioning system to locate people or objects accurately through the utilization of sensors on mobile devices in an efficient and reliable manner.
- Proposed and built HyperSight, which was created as a 3D vision software that can be implemented on a commercial-off-the-shelf smartphone, achieving up to 10x improvement in depth estimation in comparison to the baseline methods.

PUBLICATIONS

Zifan Liu, Zhechun Zhou and Theodoros Rekatsinas. Picket: Guarding Against Corrupted Data in Tabular Data during Learning and Inference. Preprint, 2020.

Zifan Liu, Jongho Park, Theodoros Rekatsinas and Christos Tzamos. On Robust Mean Estimation under Coordinate-level Corruption. In *Proceedings of ICML 2021*.

Zifan Liu, Hongzi Zhu, Junchi Chen, Shan Chang, and Lili Qiu. HyperSight: Boosting Distant 3D Vision on a Single Dual-camera Smartphone. In *Proceedings of ACM SenSys 2019*.

Yuxiao Zhang, Hongzi Zhu, **Zifan Liu**, Shan Chang and Yingying Chen. HyperEar: Indoor Smartphone Localization with a Single Remote Audio Source. In *Proceedings of IEEE ICDCS 2019*.

PROJECT

COSMOS: An AI-powered Platform for Scientific Knowledge Discovery

Jan. 2019 – May. 2019

- Successfully developed a module in COSMOS that builds connections between mentions of variables and the corresponding equations in scientific papers.
- Effectively designed an algorithm to find descriptions of variables from its context based on syntax trees.

HONORS & AWARDS

Outstanding Undergraduate of Shanghai Jiao Tong University

2018

China National Scholarship

2014 – 2015, 2015 – 2016

SKILLS

Programming Languages (Proficient) Python, C/C++, SQL; (Familiar) Java, HTML

Tools Pytorch, Tensorflow, XGBoost, Docker, Spark, Matlab, Git, LaTeX, Shell