

Xiangyu Shi

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EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL)

Exchange Student

Lausanne, Switzerland

August 2024 – February 2025

KTH Royal Institute of Technology

Master of Machine Learning

Stockholm, Sweden

August 2023 – June 2025

Harbin Institute of Technology

Bachelor of Computer Science and Technology (Overall Score: 91.95/100)

Harbin, China

August 2019 – June 2023

EXPERIENCE

KTH Royal Institute of Technology

Research Engineer(Adviser: [Sonia Horchidan](#) and [Prof. Paris Carbone](#))

Stockholm, Sweden

November 2023 – Present

- Develop Graph Representation Learning techniques and Graph Neural Network-based models for [Orb DB project](#).
- Investigate Conformal Prediction for Graph Embedding Spaces.

Chinese University of Hong Kong, Shenzhen

Research Assistant (Adviser: [Prof. Zhizheng Wu](#))

Shenzhen, China

April 2023 – October 2023

- Investigated Out of Distribution (OOD) detection, and audio compression methods in voice replay attack detection. Achieved state-of-the-art performance in ASVspoof 2021 dataset.

Harbin Institute of Technology

Research Assistant (Adviser: [Prof. Hongzhi Wang](#))

Harbin, China

January 2021 – May 2022

- Proposed an automated model compression technique based on Knowledge Graph and progressive search strategy.
- Proposed an automated machine learning (AutoML) technique using multi-objective hyper-parameter optimization for Federated Learning to achieve fairness.
- Assisted implementing an optimizable AutoML system.

PREPRINTS AND PUBLICATIONS

1. AutoMC: Automated Model Compression based on Knowledge Graph and Progressive Search Strategy
Chunnan Wang, Hongzhi Wang, **Xiangyu Shi**
IEEE International Conference on Data Engineering (ICDE) 2024. [\[Paper\]](#)[\[Slides\]](#)[\[GitHub\]](#)
2. Demonstrating Hybrid Neural Graph Query Plans in Orb DB
Sonia Horchidan, Fabian Zeiher, **Xiangyu Shi**, Panagiotis Kaliosis, Weijun Huang, Michal Zwolak, Paris Carbone
Preprint.
3. Audio Compression-assisted Feature Extraction for Voice Replay Attack Detection
Xiangyu Shi, Yuhao Luo, Li Wang, Zuou Li, hao Li, Lei Wang, Zhizheng Wu
Preprint. [\[arxiv\]](#)
4. Fair Federated Learning with Multi-Objective HPO
Chunnan Wang, **Xiangyu Shi**, Hongzhi Wang
Submitted to TKDD [\[GitHub\]](#)
5. CO-AutoML: An Optimizable Automated Machine Learning System
Chunnan Wang, Hongzhi Wang, Xu Bo, Xintong Song, **Xiangyu Shi**, Yuhao Bao
International Conference on Database Systems for Advanced Applications (DASFAA) 2022 Demo Track. [\[Paper\]](#)

HONORS

Best Technical Solution Winner of Nordea-AWS AI Hackathon'24

May 2024

Outstanding Students of 2019 ~ 2020

December 2020

Second Prize of People's Scholarship, Top %7

Septemper 2020, Septemper 2021

International Informatics Olympiad China Team Selection Competition (CTSC), Third Prize

May 2018

National Olympiad in Informatics in Provinces (NOIP), First Award, Top 30

November 2017

SKILLS

Python, NumPy, PyTorch, PyG, L^AT_EX, C/C++