# XIANGYU SHI

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## EDUCATION

**KTH Royal Institute of Technology** *August 2023 - June 2025*
Master of Machine Learning
*Selected Courses:* Machine Learning, Advanced Course (A) Foundations of Machine Learning (A) Music Informatics (A)

**Harbin Institute of Technology** *August 2019 - June 2023*
Bachelor of Computer Science and Technology Overall Score: 91.95/100

## INTERNSHIPS

**KTH Royal Institute of Technology** *Data Systems Lab* Stockholm, Sweden
Research Engineer *November 2023-now*

- Responsible for the development of graph neural network (GNN)-based model for Orb DB project. Apply and modify the existing GNN models, and Query2Box, to make the model inductive and scalable.

**Chinese University of Hong Kong, Shenzhen** *Speech and Language Lab* Shenzhen, China
Research Assistant *April 2023-October 2023*

- Worked on the improvement of audio anti-spoofing systems.
- Investigated the effectiveness of one-class classification, and data augmentation methods in voice replay attack detection. Achieved state-of-the-art performance in ASVspoof 2021 dataset. Our work was summarized in the paper, *Audio Compression-assisted Feature Extraction for Voice Replay Attack Detection*.

**Harbin Institute of Technology** *Massive Data Computing Center* Harbin, China
Research Assistant *January 2021-May 2022*

- Assisted with research of Automated Machine Learning (AutoML) on model compression. Proposed a progressive search strategy for automatic model compression. Our paper, *AutoMC: Automated Model Compression based on Knowledge Graph and Progressive search strategy*, was accepted by ICDE2024.
- Investigated the application of AutoML in federated learning. Proposed a multi-objective hyperparameter optimization (HPO) method for improving the fairness of federated learning. Our paper, *Fair Federated Learning with Multi-Objective HPO*, was submitted to TKDD.
- Developed an AutoML system, *CO-AutoML: An Optimizable Automated Machine Learning System*, which can continuously optimize the search space of the AutoML technique based on reinforce policy and graph neural network (GNN). The system was accepted by DASFAA2022.

## SKILLS

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| **Programming Languages** | Python, C/C++, Java, C#, SQL |
| **Machine learning** | PyTorch, Scikit-learn, PyTorch-Geometric, NumPy, Pandas, Matplotlib |
| **Machine Learning Deployment** | ONNX, ONNX Runtime |
| **Tools** | Git, Docker, Linux, LaTeX |
| **Others** | Strong problem-solving skills, good at teamwork, and communication |
| **Interests** | Music, Photography, and Skiing |

## HONORS

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*