

Jin Li

EDUCATION

- **BUT Speech@FIT, Brno University of Technology, Czech Republic, Visiting Scholar, 2024-present**
- **The Hong Kong Polytechnic University, Hong Kong, PhD, 2022-2025**
 - QS World University Rankings 2025: 57th
- **Ruprecht-Karls-Universität Heidelberg, Germany, MSc in Mathematics 2015-2019**
 - THE World University Rankings 2025: 47th QS 2022: No.2 in Germany
- **Ocean University of China, Qingdao College, China, B.Eng. in Computer Science 2010-2014**
 - 3.8/4.0 GPA Ranking 1 of 68 students in all classes

WORKING EXPERIENCE

- **Researcher, The Hong Kong Polytechnic University, Hong Kong**

Mar. 2022-Sep. 2022

 - Research on machine learning related field such as speech processing, computer vision
 - Voice cloning, automatic speech recognition (ASR), speaker recognition, text-to-speech (TTS), voice cloning algorithm research
- **Chinese Academy of Science, SIAT, Shenzhen**

May. 2019-Mar. 2022

 - Research on automatic speech recognition, speech emotion recognition, speaker recognition, voice biometrics, and music generation
 - Research on computer vision tasks such as video action detection and

classification

➤ **Chief AI Expert, Jinan Xintongda Electric Technology Co., Ltd., China**

Nov. 2021-Sep. 2022

- Develop data collection and design an AI model architecture for the business scenario
- Implement and improve key algorithm for the AI model
- Apply the model in the commercial deployment for the customers

➤ **AI Lab, Ruprecht-Karls-Universität Heidelberg, Germany**

Feb. 2017-Mar.2019

- Research on applied mathematics such as linear optimization, non-linear optimization
- Implement machine learning algorithm and make application on computer vision such as object tracking

PUBLICATIONS

- **Jin Li**, Man-Wai Mak, Kong-Aik Lee, Junyi Peng, Johan Rohdin, Oldřich Plchot, Hynek Hermansky. Bayesian Learning Networks for Domain-Invariant Speaker Verification and Anti-Spoofing

Submitted to *Interspeech 2025*

- **Jin Li**, Man-Wai Mak, Kong-Aik Lee, Johan Rohdin, Hynek Hermansky. Bayesian Learning Networks for Domain-Invariant Speaker Verification and Anti-Spoofing

Submitted to *Interspeech 2025*

- **Jin Li**, Xurong Xie, Nan Yan, Lan Wang. Two Streams and Two Resolution Spectrograms Model for End-to-end Automatic Speech Recognition

Accepted by *Interspeech 2023 (oral)*

- **Jin Li**, Nan Yan, Lan Wang. FDN: Finite Difference Network with Hierarchical Convolutional Features for Text-independent Speaker verification

Accepted by *APSIPA 2023 (oral)*

- **Jin Li**, Nan Yan, Lan Wang. Unsupervised Cross-lingual speech emotion recognition using pseudo multilabel

Accepted by *ASRU 2021 (oral)*

- **Jin Li**, Haibin Liu, Nan Yan, Lan Wang. Enhanced Memory Network: The novel network structure for Symbolic Music Generation

- Jiatian Qian, Duan Wang, **Jin Li**, Yanni Chen, Jian Zu, Lan Wang, Nan Yan. The Recognition of Children with Autism Spectrum Disorder by Combining Power Spectrum and Connectivity Features of EEG Signals in Emotion Recognition Tasks

- **Jin Li**, Shuai Li, Jiaming Wang, Kai Wang. Fuzzy Recognition of Vehicle's License Plate in the Intelligent Residential District of The Internet of Things, *China Science and Technology Information*, 2013, 13:89. (in Chinese)

PATENTS

- **Speaker Recognition Method Based on Speech Speed Enhancement**

Operator (No.: CN202111262103.1, **the first inventor**)

2021

RESEARCH & PROJECTS

- **Topic: Out-of-Domain Generalization for Speaker Verification and Anti-Spoofing**

- Propose a novel Bayesian neural network method to solve domain generalization problem in speaker verification and anti-spoofing

- In addition, a novel Gaussian-based manifold data augmentation is introduced to model the uncertainty of the model for out-of-domain evaluation.
- The result outperforms baseline and SOTA.

➤ **Topic: Forensic speaker recognition for the Ministry of Public Security, SIAT** *Apr. 2021-Mar. 2022*

- Propose a novel plug-and-play module to incorporate the prosodic features into the model with raw wave input
- The result outperforms current state-of-the-art research works

➤ **Topic: Symbolic music generation, SIAT** *Apr. 2021-Oct. 2021*

- Propose a novel architecture for symbolic music generation
- The result outperforms current state-of-the-art works on the Nottingham music dataset

➤ **Topic: Multiscale spectrograms and multistream model for ASR, SIAT** *Sep. 2020-Apr. 2021*

- Proposed multistream architecture with different scale features
- A novel fusion design that aggregates two-stream features
- Outperformed SOTA models on HKUST telephone speech dataset

➤ **Topic: Unsupervised cross-lingual speech emotion recognition, SIAT** *Sep. 2020-Apr. 2021*

- Proposed a novel framework with pseudo-labels in the target domain
- An external memory design with a memory update mechanism
- Vastly exceed the baseline model with 17.77% improvement

➤ **Topic: Spatial-temporal action recognition, SIAT** *May 2019-Sep. 2020*

- Proposed novel hierarchical attention for spatial-temporal action recognition model
- Performance improvements compared with the baseline model

➤ **Topic: Robust single object tracking via a fully convolutional siamese network. Image Analysis and Learning Lab, HCI, Heidelberg University**

Dec. 2018-Mar. 2019

- Proposed an ensemble method to overcome the drawback of fully convolutional siamese network
- Enhanced feature representation by combining the advantage of Conv-GRU unit with ground truth feature
- The code is publicly available on my GitHub *own_siamtracker* repository

➤ **Topic: Deep reinforcement learning for object tracking in videos. Image Analysis and Learning Lab, HCI, Heidelberg University**

May. 2018-Jun. 2018

- Re-implement YOLO and extract feature from FC1 as input into RNN
- Utilize the advantage of RNN to memorize the location of the object and predict the location of the object in the next time frame
- Model the tracking process by deep reinforcement learning method
- The code is publicly available on my GitHub *ReinforcementLearningTracker-pytorch* repository

➤ **Topic: Object tracking for the general dataset. Image Analysis and Learning Lab, HCI, Heidelberg University**

Feb 2018-May. 2018

- Literature study for object detection problem
- Re-implement “fully-convolutional siamese network for object tracking” paper and analyze the advantages and disadvantages
- Re-implement “Recurrent Filter Learning for Visual Tracking” paper and analysis the advantages and disadvantages

➤ **Topic: Object tracking for mice. Image Analysis and Learning Lab, HCI, Heidelberg University**

Nov. 2017-Feb. 2018

- Build the novel model using U-Net for biological dataset tracking problems especially for mice tracking
- Implement and apply U-Net for mice tracking
- Compute and utilize vector fields as an input feature for U-Net
- Train the U-Net then predict vector field in order to solve object overlapping problem
- The code is publicly available on my GitHub *mice* repository

➤ **Topic: Hyperparameter tuning using Gaussian Process. Image Analysis and Learning Lab, HCI, Heidelberg University** *Jul. 2017-Sep. 2017*

- Implement Gaussian Process step-by-step
- Solve nonlinear regression problem using Gaussian Process
- Binary and multi-class classification tasks using Gaussian Process
- Implement Bayesian optimization under different acquisition functions in the multi-dimensional case
- Tune hyperparameters of a prediction model using Bayesian optimization in high dimension
- The code is publicly available on my GitHub *Gaussian_process* repository

➤ **Topic: Semi-supervised learning for art galleries. Computer Vision Lab, HCI, Heidelberg University** *Feb. 2017-May 2017*

- Similarity matrix learning by deep learning method for duplicates detection
- Combine a few art galleries of the Internet and get rid of duplicates among them using pre-trained AlexNet

➤ **Topic: Web-Based Convolutional Neural Networks for Cell Classification**
Biomedical Computer Vision Group, Heidelberg University *WS2016/2017*

- To classify cells, whether normal or phenotype
- Web-based implementation and implement CNN using JavaScript

LEADERSHIP, COMMUNICATION & INTERPERSONAL SKILLS

➤ Vice President, The Hong Kong Polytechnic University Chapter of SIAM, Hong Kong 2022-2023

- Organized colloquium in applied mathematics to help student realize current mainstream topics in applied mathematics
- Leading a team and distribute works

➤ Vice President, Heidelberg University Chapter of SIAM, Germany 2017-2018

- Organized colloquium in applied mathematics to help student realize current mainstream topics in applied mathematics
- Organized both academic and industrial talks on mathematical related topics to carry students to the frontier of research and industrial applications
- Be invited as a representative of the chapter of SIAM to share my successful experiences on activity organization during both SIAM annual meetings and European SIAM annual meetings

➤ Class President, Ocean University of China, China 2010-2014

- Coordinated the work of the class committee and host class meetings
- Organized the class trip and class party
- Lead well-learned students to help the ill-learned ones
- My class receives lots of honors under my leadership such as *Outstanding Class* and *Outstanding Youth League Branch*

➤ General Secretary, Student Union of School of Information Engineering, Ocean University of China, China Sep. 2012-Sep. 2013

- Directed daily work of Student Union and coordinating relationship of other

departments

- Cultivated, supervised, and checked the leaders of Student Union
- **Student Research Training Program of Ocean University of China, China**
(Undergraduate Thesis, grade: Honor) 2013-2014
- Topic: Recognition of Vehicle's License Plate Based on Neural Networks
- As the prime principal and the project supported by the chairman foundation
(Grant No. 2013CX006)
- Published a research paper in *CHINA SCIENCE AND TECHNOLOGY*
INFORMATION in July 2013

COMPETITIONS

- **The ACM/ICPC of Shandong Province** **Jun. 2012**
- **The Freescale Cup Intelligent Car Racing** **Jun. 2012**
- **China Undergraduate Mathematical Contest in Modeling** **Sep, 2011**

HONORS & AWARDS

- **Research Postgraduate Scholarship (1/100)** **2022-2025**
- **SIAM Student Travel Grant Award (1/100)** **2017, 2018**
- **European SIAM Student Travel Grant Award** **2017**
- **Outstanding Bachelor Thesis (1/1000)** **2014**
- **Chairman Fund 2013 of Qingdao Institute of Technology (1/1000)** **2013**
- **National Scholarship, Ministry of Education of People's Republic of China (1/1000, Student's highest honor at University)** **2012**
- **Outstanding Class (5/100)** **2012**
- **Outstanding Youth League Branch (5/100)** **2012**

- Professional Practice and Diathesis Developing Scholarships (2/100)
2011
- Excellent morality and Social Practice Scholarship (2/100) 2012
- Outstanding Student Cadre (3/100) 2011, 2012
- The Second-class Scholarship (2/100) 2011
- Professional Practice and Diathesis Developing Scholarship (2/100)
2011
- Outstanding League Cadre (3/100) 2011
- The Third Prize in the Marketing Management Competition 2010

LANGUAGES

- English (Professional Proficiency)
- Chinese (Native)
- German (Elementary Proficiency)

INTERESTS

- A big fan of marathons, hiking, bouldering, and swimming