

# Mingjie Li

## Associate Professor | Shanghai Jiao Tong University

+86 13904517357/+1 6504683262 @ LMJ9475@OUTLOOK.COM  
Shanghai, China github.com/mlji0117 LinkedIn

### WORK EXPERIENCE

|              |                                                                                                                                                                                                                                                                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Present      | <b>Tenure-track Associate Professor, SHANGHAI JIAO TONG UNIVERSITY, School of Automation and Intelligent Sensing</b>                                                                                                                                                                                                                                     |
| May 2026     | Working on Medical World Model and Surgical Machine Vision Reasoning<br>Full-time                                                                                                                                                                                                                                                                        |
| May 2026     | <b>Postdoctoral Scholar, STANFORD UNIVERSITY, School of Medicine</b>                                                                                                                                                                                                                                                                                     |
| January 2024 | Working on Medical Generative methods, such as automatic non-contrast CT enhancement, counterfactual Brain MRI image generation.<br>Full-time                                                                                                                                                                                                            |
| January 2024 | <b>Research Fellow, ROYAL MELBOURNE INSTITUTE OF TECHNOLOGY, School of Computer Science</b>                                                                                                                                                                                                                                                              |
| July 2023    | Supporting the dean of School of Computer Science to build a deep learning based network to efficiently and effectively extract entities from medical text data, and automatically identify their relationships. Applying such techniques into the medical multi-modal domain, and working for a new proposal towards ARC linkage projects.<br>Part-time |
| January 2024 | <b>Research Fellow, MONASH CHILDREN HOSPITAL, Hudson Institute</b>                                                                                                                                                                                                                                                                                       |
| April 2022   | Deploying machine learning techniques to develop predictive markers for early disease detection in pre-term infants.<br>Part-time                                                                                                                                                                                                                        |
| January 2024 | <b>Research Associate, UNIVERSITY OF TECHNOLOGY SYDNEY, FEIT</b>                                                                                                                                                                                                                                                                                         |
| March 2023   | Joining the Faculty of Engineering and Information Technology, University of Technology Sydney. Targeting multi-modal medical pretraining and medical image analysis.                                                                                                                                                                                    |
| March 2023   | <b>Research Fellow, MONASH UNIVERSITY, Department of Electrical and Computer Systems Engineering</b>                                                                                                                                                                                                                                                     |
| April 2022   | Join in the Sustainable Mobility and Safety Research Group, in the School of Public Health and Preventive Medicine, to make bike riding and walking the leading modes of travel of the future. Proposed a novel system for cycling near misses detection from monocular RGB videos;<br>Part-time                                                         |
| June 2022    | <b>Research Assistant, MONASH UNIVERSITY, Faculty of Information and Technology</b>                                                                                                                                                                                                                                                                      |
| July 2021    | Working with senior neuroradiologists, neurologists, and data scientists from Monash Health and Monash University to develop an objective, sensitive, and reproducible machine learning system which interrogates sequential MRI studies to make a reliable and accurate diagnosis of multiple sclerosis progression.<br>Casual                          |

### EDUCATION

|            |                                                                                                                                                                                                                                                                                                                                     |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 2023 | <b>University of Technology Sydney, PH.D., ReLER Lab</b>                                                                                                                                                                                                                                                                            |
| July 2022  | <ul style="list-style-type: none"><li>&gt; Knowledge enhanced medical multi-modal pretraining.</li><li>&gt; Medical time series information forecasting.</li><li>&gt; Intelligent transportation system via monocular 3D object detection.</li></ul><br>ARC Discovery Project Scholarship International Research Scholarship by UTS |

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| July 2022<br>November 2019   | <b>Monash University, PH.D. CANDIDATE (TRANSFER), Monash Machine Vision Group</b> <ul style="list-style-type: none"> <li>&gt; Medical imaging analysis, including medical report generation, retinal disease classification, and MRI segmentation of the human brain.</li> <li>&gt; Unsupervised multi-modal machine translation.</li> <li>&gt; Sales volume prediction based on multivariate long sequence time-series forecasting.</li> </ul> <div>Graduate Research Industry Partnership Scholarship</div> <div>FIT International Postgraduate Research Scholarship</div> |
| April 2019<br>September 2016 | <b>Shanghai Jiao Tong University, MASTER OF ELECTRONICS AND COMMUNICATIONS ENGINEERING,</b> <ul style="list-style-type: none"> <li>&gt; Rotated object detection.</li> <li>&gt; Semi-supervised and noise-adaptive segmentation model.</li> <li>&gt; Synthetic Aperture Radar images benchmark construction, <a href="https://opensar.sjtu.edu.cn/">https://opensar.sjtu.edu.cn/</a></li> </ul> <div>Second-class Scholarship of Shanghai Jiao Tong University</div> <div>First-class Scholarship of Center for Advanced Sensing Technology</div>                            |
| July 2016<br>August 2012     | <b>Harbin Institute of Technology, BACHELOR OF ELECTRONICS AND INFORMATION ENGINEERING,</b><br>Major courses : signal processing, digital signal processing, digital image processing, signal and system, pattern recognition and statistical learning methods. <div>President of College Student Union</div> <div>Merit Student</div>                                                                                                                                                                                                                                       |

## </> FUNDING

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 2022<br>July 2019 | <b>Monash University, PRIMARY CHIEF INVESTIGATOR, Patties Food Pty Limited : A\$ 141,000.00</b><br>Collaborating with a senior manager, marketing manager and IT staff from Patties Food Ltd to explore and analyze the historical sales data of 219 products, and build a reliable system to predict the future sales data. This system also provides a strong rationale of judgement for marketing managers to assist in making marketing decisions. <a href="https://research.monash.edu/en/projects/identification-of-point-of-sale-insights-by-mining-social-media">https://research.monash.edu/en/projects/identification-of-point-of-sale-insights-by-mining-social-media</a> <div>HILA GRIP Patties</div> |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## ☰ PUBLICATIONS AND PATENTS

- > **Li, Mingjie\***, Rui Liu\*, Zeyi Shi, Mingfei Han, Lina Yao, Zhihui Li, Xiaojun Chang, Kilian M. Pohl, Md Tauhidul Islam, and Lei Xing. "Advancing In-Context Learning for Efficient and Stable Medical Report Generation." IEEE Transactions on Pattern Analysis and Machine Intelligence (2026).
- > **Li, Mingjie**, Edward Kim, Yue Zhao, Ehsan Adeli, and Kilian M. Pohl. "Modality-Aware and Anatomical Vector-Quantized Autoencoding for Multimodal Brain MRI." CVPR Findings (2026).
- > Xiang, Jinxi\*, **Mingjie Li\***, Siyu Hou, Yijiang Chen, Xiangde Luo, Yuanfeng Ji, Xiang Zhou et al. "A Generative Foundation Model for Multimodal Histopathology." arXiv preprint arXiv:2604.03635 (2026).
- > Yi, Junfei, Hui Zhang, Jianxu Mao, Tengfei Liu, **Mingjie Li**, Sihao Lin, Hanyu Gu, Zhihui Li, Xiaojun Chang, and Yaonan Wang. "Distilling Object Detectors via Monte Carlo Dropout." IEEE Transactions on Pattern Analysis and Machine Intelligence (2026).
- > **Li, Mingjie** and Haokun Lin and Liang Qiu and Xiaodan Liang and Ling Chen and Abdulmotaleb El Saddik and Xiaojun Chang. Contrastive Learning with Counterfactual Explanations for Radiology Report Generation. ECCV 2024.
- > Rui Liu\* and **Li, Mingjie\*** and Shen Zhao and Ling Chen and Xiaojun Chang and Lina Yao. In-context Learning for Zero-shot Medical Report Generation. ACM MM 2024.
- > **Li, Mingjie**, Tharindu Rathnayake, Ben Beck, Lingheng Meng, Zijue Chen, Akansel Cosgun, Xiaojun Chang, and Dana Kulić. A Benchmark for Cycling Close Pass Near Miss Event Detection from Video Streams. Transportation Research Part C : Emerging Technologies.
- > Lin, Bingqian\*, Zicong Chen\*, **Mingjie Li\***, Haokun Lin, Hang Xu, Yi Zhu, Jianzhuang Liu et al. Towards Medical Artificial General Intelligence via Knowledge-Enhanced Multimodal Pretraining. arXiv preprint arXiv:2304.14204 (2023).
- > **Li, Mingjie**, Bingqian Lin, Zicong Chen, Haokun Lin, Xiaodan Liang, Xiaojun Chang. Dynamic Graph Enhanced Contrastive Learning for Chest X-ray Report Generation. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023.
- > **Li, Mingjie**, Po-Yao Huang, Xiaojun Chang, Junjie Hu, Yi Yang, and Alex Hauptmann. Video Pivoting Unsupervised Multi-Modal Machine Translation. IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI), 2022.
- > **Li, Mingjie**, Wenjia Cai, Karin Verspoor, Shirui Pan, Xiaodan Liang, Xiaojun Chang. Cross-modal Clinical Graph Transformer For Ophthalmic Report Generation. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2022.
- > **Li, Mingjie**, Wenjia Cai, Karin Verspoor, Xiaodan Liang, Xiaojun Chang et al. FFA-IR : Towards an Explainable and Reliable Medical Report Generation Benchmark. Thirty-fifth Conference on Neural Information Processing Systems (NeurIPS) 2021.
- > **Li Mingjie**, et al. Auxiliary Signal-Guided Knowledge Encoder-Decoder for Medical Report Generation. WWW, 2022.

- Li Mingjie, et al. "Rotated Region Based Fully Convolutional Network for Ship Detection", IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium.
- Li Mingjie, et al. "Text-Conditioned Latent Diffusion Model for Synthesis of Contrast-Enhanced CT from Non-contrast CT", AAPM 2025 (Oral).
- Li Mingjie, et al. "Redefining the Down-Sampling Scheme of U-Net for Precision Biomedical Image Segmentation", AAPM 2025.
- Yuetian Weng, Mingfei Han, Haoyu He, Mingjie Li et al. Mask Propagation for Efficient Video Semantic Segmentation, NeurIPS 2023
- Mingfei Han, Yali Wang, Mingjie Li, Xiaojun Chang, Yi Yang and Yu Qiao. Progressive Frame-Proposal Mining for Weakly Supervised Video Object Detection, IEEE Transactions on Image Processing (TIP), 2024
- Li, Mingjie and Liu, Rui and et al. CLMFormer : Mitigating Data Redundancy to Revitalize Transformer-based Long-Term Time Series Forecasting System. ACM TIST.
- Li, Mingjie and Karin Verspoor. EMBRE : Entity-aware Masking for Biomedical Relation Extraction. The BioCreative VIII Workshop, AMIA Annual Symposium Conference.
- Liu, Tengfei, Yongli Hu, Mingjie Li, Junfei Yi, Xiaojun Chang, Junbin Gao, and Baocai Yin. "Tackling Real-world Complexity : Hierarchical Modeling and Dynamic Prompting for Multimodal Long Document Classification." IEEE Transactions on Circuits and Systems for Video Technology (2025).
- Li, Changlin, Sihao Lin, Tao Tang, Guangrun Wang, Mingjie Li, Zhihui Li, and Xiaojun Chang. "BossNAS Family : Block-wisely Self-supervised Neural Architecture Search." IEEE Transactions on Pattern Analysis and Machine Intelligence (2025).
- Zhang Z, Guo W, Li M, et al. GIS-supervised building extraction with label noise-adaptive fully convolutional neural network[J]. IEEE Geoscience and Remote Sensing Letters, 2020.
- Yi, Junfei, Jianxu Mao, Hui Zhang, Mingjie Li, Kai Zeng, Mingtao Feng, Xiaojun Chang, and Yaonan Wang. "FMSD : Focal Multi-scale Shape-feature Distillation Network for Small Fasteners Detection in Electric Power Scene." IEEE Transactions on Circuits and Systems for Video Technology (2024).
- Liu, Tengfei, Jiapu Wang, Yongli Hu, Mingjie Li, Junfei Yi, Xiaojun Chang, Junbin Gao, and Baocai Yin. "HC-LLM : Historical-Constrained Large Language Models for Radiology Report Generation." AAAI 2025.
- Wu, Xiaopeng, Guangsi Shi, Zexing Zhao, Mingjie Li, Xiaojun Gao, and Xiaoli Yan. DCCN : A dual-cross contrastive neural network for 3D point cloud representation learning. Expert Systems with Applications 249 (2024) : 123564.
- Li C, Li Z, Ge Z, Li M. Knowledge driven temporal activity localization[J]. Journal of Visual Communication and Image Representation, 2019, 64 : 102628.
- Chang X, Liu W, Huang P Y, Mingjie Li, et al. MMVG-INF-Etol@ TRECVID 2019 : Activities in Extended Video[C]//TRECVID. 2019.
- Islamaj, R., Lai, P. T., Wei, C. H., Luo, L., Almeida, T., Jonker, R. A., M. L ... & Lu, Z. (2024). The overview of the BioRED (Biomedical Relation Extraction Dataset) track at BioCreative VIII. Database, 2024.
- Fan, Yijian, Zhenbang Yang, Rui Liu, Mingjie Li, and Xiaojun Chang. "Medical Report Generation Is A Multi-label Classification Problem." IEEE MedAI 2024.
- Ge L, Li M, Yan C, et al. Study on high-precision tracing system and recognition algorithm of cabin vehicle[J]. CHINA MEASUREMENT AND TEST, 2017 (12) : 19.
- Vehicle positioning and tracking system and method based on three-dimensional visual stitching in-cabin : CN106781601 A, Date : 2017-05-31, inventor : TAO WEI; GE LIHUA; ZHAO HUI; YAN CHUANXU; LU JUNGUO; LIU YUXUAN; SUN KEYANG; QIAN HONG; XIE FENGMING; MA GUOXI; LI MINGJIE; DENG KAIPENG;

## ACADEMIC SERVICE

### Conference Reviews

- European Conference on Computer Vision (ECCV)
- ACM International Conference on Multimedia (MM)
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- IEEE International Conference on Computer Vision (ICCV)
- NeurIPS, ICLR

### Journal Reviews

- Nature Machine Intelligence, Nature Communication
- IEEE Transactions on Medical Imaging (TMI), IEEE Transactions on Image Processing (TIP)
- Journal of Ambient Intelligence & Humanized Computing (AIHC)
- Neural Computing and Applications (NCAA)
- Transactions on Multimedia Computing Communications and Applications
- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Transactions on Multimedia
- IEEE Transactions on Signal Processing

## CONTRASTIVE LEARNING WITH COUNTERFACTUAL EXPLANATIONS FOR RADIOLOGY REPORT GENERATION

2024

 [github.com/mlii0117/CoFE](https://github.com/mlii0117/CoFE)

We propose a counterfactual explanation to enhance contrastive learning for chest x-ray report generation.

[Counterfactual explanation](#) [Report Generation](#)

## DYNAMIC GRAPH ENHANCED CONTRASTIVE LEARNING FOR CHEST X-RAY REPORT GENERATION

2023

 [github.com/mlii0117/DCL](https://github.com/mlii0117/DCL)

We propose a dynamic graph to enhance contrastive learning for chest x-ray report generation.

[Contrastive Learning](#) [Report Generation](#)

## GMT FOR TIME SERIES FORECASTING

2022

 [github.com/mlii0117/GMT-for-Time-Series-Forecasting](https://github.com/mlii0117/GMT-for-Time-Series-Forecasting)

We propose a generalizable memory-driven Transformer to target multivariate long sequence time-series forecasting problems.

[Time Series Forecasting](#) [Generalizable Learning](#)

## FFA-IR

2021

 [github.com/mlii0117/FFA-IR](https://github.com/mlii0117/FFA-IR)  [Data](#)

We propose an explainable and reliable MRG benchmark based on FFA Images and Reports. Specifically, our FFA-IR dataset is featured from the following aspects : 1) Large-scale medical dataset. 2) Explainable annotation. 3) Bilingual reports.

[Fundus Fluorescein Angiography](#) [Medical Report Generation](#) [Retinal Image Analysis](#)

## COV-CTR

2020

 [github.com/mlii0117/COV-CTR](https://github.com/mlii0117/COV-CTR)

We constructed a COVID-19 CT Reports (COV-CTR) dataset and proposed a new medical report generation approach via AI technologies to describe lung CT images with three radiologists come from The First Affiliated Hospital of Harbin Medical University along with more than five years of working experience.

[COVID](#) [Lung CT Scans](#) [Medical Report Generation](#)

## OPENSAR

2018

 [Project Page](#)

We presented two public large-scale datasets OpenSARShip and OpenSARUrban dedicated to deeper interpretation of SAR Ship Imagery and urban Imagery respectively. Both of data are collected from Sentinel-1 Imagery.

[Synthetic Aperture Radar](#) [Benchmark](#)