JINYANG LI

PhD Student · The University of Hong Kong

Meng Wah Complex, Pokfulam Road, Hong Kong

(+86) 15124503177 | jl0725@connect.hku.hk | jinyang-li.me

Education

The University of Hong Kong — *Hong Kong, China*

PhD in Computer Science — *January. 2022 - Dec. 2025*

- Research Interest: Natural Language Processing, Neural Information Retrieval, Heterogeneous Information Network

Columbia University, Data Science Institute — *New York City, US*

M.S in Electrical Engineering — *Aug. 2018 - Feb. 2020*

- Track: Data-Driven Analysis and Computing, GPA: 3.704/4.0
- Research Interest: Multi-turn Dialogue, RL for NLP, NLP for Social Media, Graphic Network for NLP
- Highlight Courses: Data Science, Reinforcement Learning, Applied Deep Learning (CV mainly), Natural Language Processing, Large Data Streaming, Machine Learning ,etc

Harbin Institute of Tech — *Harbin, China*

B.E in Electrical Engineering and Automation — *Aug. 2013 - Jun. 2017*

- CGPA: 87.6/100, Major GPA: 90.64/100

Skills

Programming	Python, C/C++, Golang, JAVA, LaTeX
Web	Java EE, Node.JS, HTML5, CSS
Languages	English, Madarin
AI Platform	PyTorch, Tensorflow, Zhu Suan, Apache Flink, PySpark, Linux Shell

Academic Experience

STAR LAB & Social Computing and Information Retrieval Center (HIT) | Research Assistant — *Hong Kong, China*

Project: A Meta-Structure Aware Heterogenous Neural Network for Event-Product Pair Extraction — *Sep. 2021 - May. 2022*

Advisor: Prof. Reynold Cheng& Prof. Ting Liu & Lecturer Xiao Ding

- Annotated an Event-Product Identification Dataset covering more than 1467 products and 7877 events.
- Proposed and constructed a novel Heterogeneous Reasoning Fusion Network to extract event node features.
- Designed a Multi-view Graphic Neural Network Aggregation to retrieve semantic and structural information of nodes.
- Proposed a weakly-supervised Word Selection Part to extract Consumption Intention based on MCTS

IBM Massachusetts Institute of Technology Waston AI Lab — *Boston, U.S.*

Project: The Research, and Implement of AI Dialog System Based on Goal Planning and Deep Learning — *Aug. 2019 - Jan. 2020*

Advisor: Researcher Fan Zhang

- Designed a Deep Reinforcement Learning Model to generate utterances following Goal Planning and Topic Coherence.
- Constructed Semi-Supervised Label-Embedding Attentive model to deal with Multi-Classification problems.
- Implemented Word-Spelling Checking part based on Bayesian Model and Tree-Based Machine Translation function.
- Optimized and implemented Slot-Filtering based Multi-turn Text-to-SQL Model to IBM Speech Assistant

State Key Laboratory of Intelligent Technology and Systems, TSAIL Group, Tsinghua University — *Beijing, China*

Project: Shapelet Based Time Series Regularized Decision Tree & Adversarial Attack for ML models — *Apr. 2019 - Aug. 2019*

Advisor: Prof. Jun Zhu

- Built a regularized Random Shapelet Forest algorithm with higher classification accuracy.
- Proposed an algorithm for the Sparse Adversarial Perturbations by L2,1-Norm Regulation.
- Optimized ADP Algorithm to diversity, the confident score of Non-Maximal Suppression in order to reinforce robustness.

Google AI & Columbia University, Data Science Institute | Research Assistant *New York, U.S.*

Project: Cancer Metastases on Gigapixel Pathology Images in Low Devices *Jan. 2019 - April. 2019*

Advisor: Joshua Gordon & Kathy McKeown

- Built a deep ensemble neural network and designed a new pixel-based IOU metric to measure Performance
- Achieved pixel-based IOU score of 0.84 for heat map, Precision of 91.1% (Pathologists' Precision was 73.2), Recall 84%

Selected Pulications

Event-driven Consumption Intent Reasoning Using Heterogeneous Graph Neural Networks with Meta-Topology *Conference*

Jinyang Li*, Bibo Cai*, Xiao Ding, Junwen Duan, Bing Qin, Ting Liu, Zhongyang Li, Reynold C.K. Cheng *May. 2022*

Preprint, Will Submit to The Web Conference **(WWW)** 2023

A Convolutional Semantic Matching Method for Disease Diagnosis from Chinese Radiology Reports *Journal*

Preprint *May. 2022*

Under Review on IEEE Journal of Biomedical and Health Informatics 2022

Efficient Approximation For Gaussian Process Regression *Journal*

Dansong Cheng, Ce Liu, Xiaofang Liu, **Jinyang Li**, Tian Feng, Reynold C.K. Cheng *Feb. 2022*

Submitted to Journal of **Soft Computing** 2022

Gearbox Fault Diagnosis Classification with Empirical Mode Decomposition based on Improved Long Short-Term Memory *Conference*

Sheng-Nan Chen, Feng Liu, Chang-Xia Gao, **Jinyang Li** *Mar. 2021*

Accepted to IEEE the 6th International Conference on Cloud Computing and Big Data Analytics **(ICCCBDA)** 2021

Shapelet Based Time Series Regularized Decision Tree *Conference*

Jinyang Li, Haiyang Liu, Xiaokang Wang *May. 2019*

Accepted to IEEE Proceedings of 4th International Conference on Cybernetics 2019 76-83

Influence of Load on Discharge Performance of High-speed Flywheel Energy Storage System *Conference*

Jinyang Li, Linkui Du, Weili Li, Jiafeng Shen, Jianjun Zeng, Dong Li, Purui Wang *Aug. 2017*

Accepted to 20th International Conference on Electrical Machines and Systems **(ICEMS)**, 2017

Research on Stator Winding Open Circuit Faults of Permanent Magnet Wind Turbine *Conference*

Jinyang Li, Weili Li, Zhijuan Zhang, Dong Li, Jiafeng Shen, Weijie Yang, Purui Wang *Aug. 2017*

Accepted to 20th International Conference on Electrical Machines and Systems **(ICEMS)**, 2017

Research on Flow Rule and Thermal Dissipation Between the Rotor Poles of a Fully Air-Cooled Hydrogenerator *Journal*

Shukuan Zhang, Weili Li, **Jinyang Li**, Likun Wang, Xiaochen Zhang *Jun. 2015*

Published in IEEE Transactions On Industrial Electronics, VOL. 62, NO. 6, JUNE 2015, **IF: 7.5**.

Valuable Coursework / Seminar

Projects in the Electrical Engineering & Computer Science || Columbia University *New York, USA*

Project & Challenges *Sep.2018 - Feb. 2020*

- Project: A Latent-Factor based Recommendation System Optimized through EM Algorithm
- Project: Accurate Deep Reinforcement Learning based Dependency Parsing
- Project: Auto-Encoder based Reinforced Pre-training Network for VQA

Awards & Scholarship

Country

2022-2025	**HKU Presidential PhD Scholar Programme (HKU-PS)**, (US $51,712 per year))	*Hong Kong, China*
2017	**Excellent Graduation Thesis**, Department of Electrical Engineering	*Harbin, China*
2014-2015	**National People's Scholarship**, Chinese Government	*Harbin, China*
2016-2017	**Group Member**, Harbin Institute of Technology Robotic Team	*Harbin, China*
2016	**Execellent Design Award**, Industrial Practice in Harbin Institute of Technology	*Harbin, China*

International

2015	**Chinese Delegate**, Youth Assembly at United Nations	*New York, U.S.*
2015	**Excellent Presentation**, Youth Leadership Training and Exchange Programs at the International Monetary Fund	*New York, U.S.*