

JIANG Maiqi

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EDUCATION

- **The Hong Kong Polytechnic University** 65th in QS Ranking
*M.Sc. in Information Technology; GPA: 3.69/4.30 with **Distinction Award*** 8.2021 - 1.2023
Courses: Data Structures And Database Systems, Big Data Computing, Computer Vision And Image Processing, Machine Learning And Data Analytics, Software Engineering And Development, Natural Language Processing, Artificial Intelligence Concepts
- **Northeastern University, China** National 985 Project
B.S. in Biomedical Engineering; Average Score: 79.75/100 9.2017 - 6.2021
Courses: The C++ Programming Language, Data Structure, Principle of Database, SCM Theory and Application, Medical Informatics, Digital Signal Processing, Computer Networks, Digital Image Processing, Embedded System Technology

EXPERIENCE

- **Reduction of Large Language Model Hallucinations** -
Project Leader 8.2023 - Present
 - **Project Overview:** Spearheaded a pioneering initiative to augment the precision and trustworthiness of large language models (LLMs). This involved conceptualizing and implementing a novel, alignment-oriented methodology to reduce hallucinatory responses and enhance factual coherence in LLM outputs.
 - **Collaboration Invitation:** For an in-depth insight into the project's foundational concept, please refer to this link.
- **Opposite Communities in Social Media Induce User Engagement** City University of Hong Kong
Research Assistant, guided by Dr. LIU Junming 2.2023 - 10.2023
 - **Research Focus:** Conducted comprehensive data extraction from major social media platforms, primarily Twitter and Reddit, aggregating millions of user interactions.
 - **Analytical Approach:** Employed advanced data analytics techniques to identify patterns that demonstrate how polarized community interactions on social media platforms stimulate user engagement. This analysis was grounded in theoretical frameworks from existing literature on online discourse and conflict dynamics.
 - **Innovative Design:** Developed a dynamic Graph Neural Network, specifically designed to model the intricacies of extreme emotional diffusion and adversarial positions in online user interactions.
- **Knowledge Graph Survey** The Hong Kong Polytechnic University
Researcher, guided by Dr. HUANG Xiao 1.2023 - 3.2023
 - **Project Leadership:** Directed the survey team, managing the direction and progression of the comprehensive literature review.
 - **Literature Analysis:** Conducted an extensive examination of hundreds of scholarly articles, synthesizing key findings and trends in the field of knowledge graphs.
 - **Survey Composition:** Systematically categorized the reviewed papers and authored concise summaries, structuring the survey with clarity and academic rigor.
- **Heterogeneous Network Learning** The Hong Kong Polytechnic University
Researcher, guided by Dr. HUANG Xiao 11.2021 - 2.2023
 - **Research Focus:** Focused on automating Heterogeneous Network learning using Non-Recursive Message Passing techniques.
 - **Model Development:** Engineered a cutting-edge model for Heterogeneous Network learning, significantly enhancing Non-Recursive Message Passing methods.
 - **Code Repository:** Developed benchmarks for Heterogeneous Network, available at <https://github.com/themaigod/HINBaselines>.
 - **Scholarly Contributions:** Authored a research paper intended for submission to TKDE and successfully completed a top-graded dissertation.
- **Semi-supervised Learning on Whole Slide Image (WSI)** Northeastern University, China
Researcher, guided by Dr. CUI Xiaoyu, Chair of Biomedical Informatics Department 11.2018 - 6.2021
 - **Research Topic:** Investigated a weakly supervised framework driven by eye-tracking in pathological diagnosis.
 - **Innovative Framework Development:** Developed a novel weakly supervised framework for WSI analysis, integrating eye-tracking data to refine diagnostic accuracy in pathology.
 - **Code Repositories:** Created and maintained multiple code repositories for WSI processing and analysis:
 - * WSI process Library: <https://github.com/themaigod/WSIGeneralProcess>
 - * WSI with Gaze Processing: <https://github.com/themaigod/WSI-with-Gaze-Processing>
 - * WSI with Gaze Modeling: <https://github.com/themaigod/WSI-with-Gaze-Modeling>
 - **Academic Achievement:** Completed a Bachelor's thesis awarded with the grade 'Great'.

INTERNSHIP&WORK

- **Contribute to Open Source Project** The Unified AI Framework
Contributor, PR 7.2023
- **Industrial Practice** Neusoft Inc.
Developer 9.2020
- **Research** Department of Information System, City University of Hong Kong
Research Assistant 2.2023-12.2023

PROJECTS

- **Gene Regulatory Network (Bayes Model)**: A Bayes network for building a graph to explain genes relation and influence with other genes. So it can be further used to targeted medicine development. Tech: Matlab (10.2018)
- **Cellular Automaton based Traffic Simulation System (Cellular Automaton)**: Traffic Simulation System built by Cellular Automaton, in order to test which road shape is suitable to avoid traffic jam. It is with a software copyright. Tech: Matlab. (9.2018)
- **Cell Segmentation (Computer Vision, Image Processing)**: Segment the cell from original medical images by traditional image processing methods and deep learning methods, such as UNet. Tech: Python, OpenCV, Pytorch (7.2019)
- **Time Analysis for Different Deep Learning Packages (Computer Vision, Natural Language Processing)**: Build a series of tasks of Computer Vision and Natural Language Processing to evaluate time cost for different Deep Learning Packages, including Pytorch, Tensorflow and PaddlePaddle. Tech: Python, Pytorch, Tensorflow, PaddlePaddle, OpenCV (4.2022)
- **A document-based QA System (Natural Language Processing)**: This QA system is trained from SQuAD Dataset and can solve No-Answer problem. It reached F1 score 77.748, which is similar to the 67th result in Leaderboard. There is also a web page for using this model online. Tech: Pytorch, Transformers, flask (5.2022)

RESEARCH INTEREST

- **Research Area**: Graph Neural Network and Computer Vision
- **Relevant Topics**: Image Classification and Segmentation, Attention, Multiple Instance Learning, Few-shot Learning, Heterogeneous GNN, Differential NAS

HONORS AND AWARDS

- **Honorable Mention twice (2019, 2020) on The Mathematical Contest in Modeling / The Interdisciplinary Contest in Modeling**: (Data Mining, Natural Language Processing) Evaluation Model for Economy Cost and Evaluation Model for Product based on Sentiment Analysis
2000 CNY Scholarship for Each Prize
- **Third Prize twice (2018, 2019) on Liaoning Province in China Undergraduate Mathematical Contest in Modeling**: (Optimization, Mathematical Programming)
- **Excellent Leader for Social Practice - 2018**

SKILLS SUMMARY

- **Languages**: Python, Matlab, C/C++, JavaScript, SQL, Bash, JAVA
- **Frameworks**: Pytorch, Transformers, PyG, DGL, OpenCV, Flask, Django, Scikit-learn, Scipy, Numpy
- **Tools**: Git, Docker, Pycharm, Linux, Terminal, MiniConda