

Hongxu LIU

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EDUCATION

Beijing University of Posts and Telecommunications (BUPT)

Sep.2022-

Present

Major: Intelligence Science and Technology

Degree: Master of Engineering

GPA: 92.2/100

IELTS (7.0) 09/02/2024

Beijing University of Posts and Telecommunications (BUPT)

Sep.2018-

Jun.2022

Major: Computer Science and Technology

Degree: Bachelor of Engineering

GPA: 86.45/100

COMPETITION EXPERIENCE

The 20th China Post-Graduate Mathematical Contest in Modelling, *Team leader*

Sep.2023

- Responsible for algorithm designing for sub-problems 1 and 3
- Experienced training transformer-based billion magnitude large models from scratch, and applied them to solve interdisciplinary problems, for instance, addressing meteorology-oriented problems.

DSTC-11 Track5 Competition, *Participant*

Jan.2023-Apr.2023

- Optimized the generator of RAG-based dialogue systems and Intrusively modified the decoder (of BART) to fit in numerical tasks.
- Took in the knowledge of integrating GNN-like numerical reasoning system in a transformer and mastered various tricks for NLP-area dialogue competitions such as model ensemble and FID.

The 19th China Post-Graduate Mathematical Contest in Modelling, *Team leader*

Sep.2022

- Born the obligations to design, and implement algorithms based on GNN, LSTM and heuristic searching, as well as complete training models for all problems.
- Went through the designing and application task-oriented GNN as well as LSTM on geography-oriented temporal pandemic predicting problems.

Multidoc2Dial Competition, *Participant*

Jan.2022-Mar.2022

- Upgraded the generator of the RAG-based dialogue system.
- Familiarized with fine-tuning pre-trained models such as T5 under the RAG pipeline.

COMAP's Interdisciplinary Contest in Modeling, *Participant*

Feb.2021

- Put forward algorithm & fully responsible for essay writing
- Gained abundant knowledge of using traditional yet effective machine learning algorithms, such as Eigenvector-based matrix conditioning and K-means clustering algorithm to solve real-world problems.
- Increased communication skills, since writing an essay requires organizing our team members' work, which involves communicating and associating with my teammates.

PROFESSIONAL EXPERIENCE

Meituan Inc. (Beijing Sankuai Online Technology Co., Ltd), *Intern, Algorithm Engineer*

Jul.2022-Jul.2024

- Implemented and optimized a few-shot intent detection system for intelligent customer assistants.
- Augmented KB data of few-shot intent detection system for intelligent customer assistant.
- Denoised ASR text based on paraphrasing.

PUBLICATIONS

- Hongxu LIU.** *Dual-Stage Multi-Task Syntax-Oriented Pre-Training for Syntactically Controlled Paraphrase Generation.* The 62nd Annual Meeting of the Association for Computational Linguistics (ACL2024), <https://aclanthology.org/2024.findings-acl.845/>

- Proposed a series of novel tree-structure-oriented and syntax-oriented tasks and further pre-trained T5 on them, giving T5 structural and syntactical knowledge which it lacks, and SOTA performance on SCPG task.

HONOURS

- National Second Prize, The 20th China Post-Graduate Mathematical Contest in Modelling
- First Prize Scholarship (Twice), BUPT
- National Third Prize
- Third Prize Scholarship, BUPT
- Meritorious Winner, COMAP's Interdisciplinary Contest in Modeling
- National Third Prize, NECCS

OTHERS

- *Skills*: Well-mastered programming languages such as C/C++/Python/Shell; Skillful use of predominantly used deep-learning frameworks such as pytorch, huggingface transformers, DeepSpeed, etc. and deep dive into some of their source code.
- *Hobbies*: Excellent piano skills; Programming and developing interesting applications like webpage crawlers, GUI applications, games and web servers, etc.; Training & deploying AI applications like Stable-Diffusion; History and humanities, such as linguistics; Sports: swimming, soccer and bodybuilding.