Jixiang Yu

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EDUCATION BACKGROUND

Dongbei University of Finance and Economics (DUFE), B.Sc. in Computer Science **09/2018-06/2022**

- **GPA:** 90.5/100 (major ranking: 1/27)
- **Core modules:** *C Programming* (99); *Python Programming* (98); *Java Programming* (99); *Algorithm Analysis and Design* (98); *Python Data Science and Engineering* (99); *Operating System* (98); *Construction and Maintenance of Website* (98)； *Data Mining Overview*(98)

The Hong Kong University of Science and Technology(Guangzhou Campus), Ph.D. **09/2022-06/2026(expected)**

- **Microelectronics Thrust, Function Hub**
- **Supervisor:** Prof. Hongyuan Liu and Prof. Jiang Xu
- **Research Interests:** MLSys; Computer Architecture; Industrial Big Data; Neural Network Design and Applications.
- Guangzhou Campus is an extension of HKUST Clear Water Bay Campus, focusing on interdisciplinary research, rather than an independent University.

SCHOLARSHIPS, AWARDS AND HONORS

- Student Member of China Computer Federation (CCF)
- Outstanding Graduate of Dalian (3%). Mar., 2020
- Best Report in 5th ICDLT. Jun., 2021
- Advanced Individual in Subject Competition of DUFE. May., 2021
- Second Prize in the Contemporary Undergraduate Mathematical Contest in Modeling(CUMCM) (5%). Nov., 2020
- First Prize in the CUMCM(Liaoning Division). Nov., 2020
- First-class Comprehensive Scholarship of DUFE for the second semester of 2020-2021 Academic Year
- Second-class Comprehensive Scholarship of DUFE for the first semester of 2020-2021 Academic Year
- First-class Comprehensive Scholarship of DUFE for the second semester of 2019-2020 Academic Year

RESEARCH EXPERIENCE

Research on Big Data Service Process Optimization and Dynamic Resource Allocation in Hybrid Cloud Environment, National Natural Science Foundation of China (71772033) and Research on Cloud Workflow Scheduling in a Container Environment Based on Deep Reinforcement Learning, Natural Science Foundation of Liaoning Province (2020-KF-11-11)

05/2020-Present

- Research objective: to solve the problem of low resource consumption on cloud better from a higher perspective
- Improved the Transformer, a representative architecture in deep learning, customized its position encoding and designed an attention mask to describe and characterize the graph structured data
- Designed a fusion module to integrate GNN and Transformer into an end-to-end architecture
- Tools and technologies applied: Python, CUDA, Deep Learning, Pytorch, Pytorch-geometric, Linux, and etc.

Theory and Method of Real-Time Distribution Service Operation Management under O2O Mode, key project of National Natural Science Foundation of China(71831003) (sub project, with Asso. Prof. Gao, Ming)

05/2021-Present

- Mainly responsible for space-time graph neural network and Transformer based time series prediction
- On this basis, the neural network architecture of deep reinforcement learning system could be designed, and the real-time scheduling algorithm in random scene would be studied based on SUMO simulation system
- Tools and technologies applied: Python, SUMO, Pytorch, Pygame, and etc.

Research on Blood Mass Spectrometry for Disease Diagnosis (key member of cooperation between Prof. Gao of DUFE and Prof.Qian of Shanghai Jiaotong University)

06/2021-Present

- Research objective: to make full use of blood spectrometry for disease diagnosis
- Mainly responsible for novel deep learning algorithm design, feature interpretability research, and manuscript (methodology part) writing
- Tools and technologies applied: Python, CUDA, Deep Learning, Pytorch, Keras, Captum, and etc.

RESEARCH PAPERS IN SUBMISSION

- *Workflow Performance Prediction based on Graph Structure Aware Deep Attention Neural Network.* (**First Author**, Journal of Industrial Information Integration, JCR Q1, IF=10.063, Feb., 2022).
- *Workload Prediction of Cloud Workflow based on Graph Neural Network*. (**Co-First Author**, The 18th International Conference on Web Information Systems and Applications (WISA2021), Sep., 2021).
- *A Transformer Based Sales Prediction of Smart Container in New Retail Era*. (**Co-First Author**, 2021 5th International Conference on Deep Learning Technologies (ICDLT), Jul., 2021).
- *Workload Prediction of Cloud Workflow based on Fusion Architecture of GNN and Transformer. (***First Author**, submitted to IEEE Transactions on Neural Network and Learning Systems, under review).

ACADEMIC CONFERENCES

- (**Oral presentation**) 2021 5th International Conference on Deep Learning Technology
- YEF 2021 (stands for Youth Elite Forum)
- 2021 BAAI Conference (online)
- 2020 BAAI Conference (online)
- (**Oral presentation**) The 18th International Conference on Web Information Systems and Applications (WISA2021)

PROFESSIONAL SKILLS

Computer Skills

- Proficient in Python, Java, C Language
- Familiar with Linux and macOS
- web-based GUI development using HTML5, CSS, and JavaScript.

English Skills

- **IELTS:** Overall 6.5 (12/2020) (Test Date: 05/Sep/2021)
  Listening:6.5 Reading:8.0 Writing:6.5 Speaking:5.5 Overall Band Score:6.5
- **CET-6:** 548/710 (12/2020)

Academic Services

- **Reviewer:** IEEE Access

Last Update: Mar., 2022