MENG Hongdao

Tel: +1-718-306-3737 | Email: hm3424@nyu.edu/ mycrofthd@gmail.com

Add: #111 Lawrence St, Brooklyn, New York, 11201

Educational Background

NYU Tandon School of Engineering **09/2024—present**

Major: Computer Science Excepted Degree: Master of Engineering

Core Modules: Web Search Engines, Software Engineering, Artificial Intelligence

Faculty of Information Technology, Beijing University of Technology (BJUT) **09/2020—07/2024**

GPA: 3.60/4.00 Major: Information Security Degree: Bachelor of Engineering

Core Modules: Network Protocol Analysis and Design, Object-Oriented Programming, Information Theory and Coding, Computer Networks, Principles of Computer Organization

Beijing No. 8 High School (Top3 in Beijing) **09/2017—06/2020**

Enrolled in the 11th Beijing AoXiang (Soaring) Program (a model for cultivating top-notch and innovative talent from teenagers in Beijing) in Grade 10;

Awarded the honor Excellent Member of Aoxiang Program in 2018;

Won the Second Prize in Beijing Teenagers' Scientific and Technological Competition;

Won the Second Prize in Jinpeng Science and Technology Forum, Beijing.

Extracurricular Learning Experiences

09/2022—present Data Mining & Security (DMS) Lab, BJUT

09/2021—present Beijing Key Laboratory of Clinical Epidemiology, Capital Medical University

09/2012—09/2022 Capital Health Management and Policy Research Base

04/2021—09/2021 Biomedical Program, Faculty of Environment and Life, BJUT

07/2020—12/2020 CHCN-BTH Research Group, Capital Medical University

Honors & Awards

07/2022 Second Prize (university level), 5th "BJUT Cup" Innovation and Entrepreneurship Competition & Preliminary of 8th China International College Students' "Internet Plus" Innovation and Entrepreneurship Competition for the research AI Smart Clothes—Pioneer of Remote Monitoring for Arrhythmic Elders

07/2022 Second Prize (Beijing municipal level), 5th BJUT iCAN Competition, part of the iCAN Innovation Contest, for the research AI Smart Clothes—Pioneer of Remote Monitoring for Arrhythmic Elders

Internship & Research Experiences

03/2024—07/2024 Prouduct development department back-end group, TAl Education Group AI algorithm engineer

- Researched LLM, Transformer, Retrival Augmented Gerneration(RAG) in the back-end group
- Served as a key player to help the team complete the RAG part of the LLM
- Updated and optimized the bgem3 hybrid search, and instantiated the embedding and re-rank methods to a specific project
- Learned the communication and cooperation in real work and the workflow on gitlab

09/2022—07/2024 Data Mining & Security (DMS) Lab, BJUT **Researcher & 1st Author**

- Researched federated learning, multi-view multi-label machine learning in the lab
- Acquired skills in literature review and academic writing, learned various mathematical optimisation methods and testing methods, and became proficient in using Python, Matlab, Latex
- Proposed a new method of FMVML and verified the model performance through experiments
- Wrote papers and helped apply for patents.

09/2022—12/2022 Realization of Algorithm for Traveling Salesmen Based on Baidu Map API **Web Designer**

- Used the front-end technologies CSS, HTML, JavaScript to realize a navigation system that was capable of marking multiple points for regular navigation and traveling salesman algorithm on the global map based on Baidu Map API

09/2021—present Beijing Key Laboratory of Clinical Epidemiology, CCMU **Participant**

- Participated in group meetings, widely read the literature related to multi-omics data integration methods based on machine learning
- Co-worked with other researchers in writing a piece of literature review and completed a piece of academic paper
- Mastered the statistical methods of constructing prediction model by using R software

09/2021—09/2022 Research on Organizational Capacity of Public Hospitals and Impact Mechanism of Their Maturity on Hospital Efficiency(Project No. 9222004), Beijing National Science Foundation Researcher & 1st Author

- Learned the bibliometric method and applied the bibliometric software packages Citespace and NoteExpress
- Wrote the paper titled Visualized Quantitative Analysis of Hot Research Topics about Medical Information Security in China in the Internet Age independently

04/2021—09/2021 Research on Remote Monitoring System for Families with Elders Based on the Internet of Things and Cloud Computing Platform (Project No. 71661167001), National Natural Science Foundation International (Regional) Cooperation Program **Participant**

- Took part in webpage development in the research AI Smart Clothes—Pioneer of Remote Monitoring for Arrhythmic Elders
- Self studied JavaScript and developed the interaction part for the back-end web platform

09/2020—12/2021 Complicated Page Analysis Based on Machine Learning, BJUT Spark Program **Project Leader**

- Applied for the project and led the team to study page analysis, and wrote the research report.

07/2020—12/2020 A Cohort Study of Natural Population with Chronic Diseases in Living Communities of the Beijing-Tianjin-Hebei Region (Project No. 2016YFC0900603), National Key Research and Development Plan **Leader and Researcher**

- Assisted the project leader in recruiting more than 50 volunteers
- Took part in questionnaire survey, data input and biological specimen repository construction

Publications

- **Hongdao Meng**, Gengyu Lyu, Songhe Feng, Yipeng Wang and Zhen Yang. Federated Multi-view Multi-LAbel Classification. IEEE Transactions on Big Data (2023) (major revision)
- Han Qi, Yunyi Xie, Xiaojun Yang, Juan Xia, Kuo Liu, Fengxu Zhang, Wenjuan Peng, Fuyuan Wen, Bingxiao Li, Bowen Zhang, Xinyue Yao, Boya Li, **Hongdao Meng**, Zumin Shi, Wang Yang, Ling Zhang, Susceptibility genes identification and risk evaluation model construction by transcriptome-wide association analysis for salt sensitivity of blood pressure: the EpiSS study. BMC Genomics (2024) (accept) https://doi.org/10.1186/s12864-024-10409-9
- **Hongdao Meng,** Kai Meng. Visualized Quantitative Analysis of Hot Research Topics about Medical Information Security in China in the Internet Age. Chinese Hospital Management (2023) (under review)
- Han Qi, Xiaojun Yang, Fuyuan Wen, **Hongdao Meng**, Ling Zhang. **Progress in the application of multi-omics big data analysis in the study of hypertension**. **Chinese Journal of Cardiology** (2023) (to be published)
- Gengyu Lyu, **Hongdao Meng**. Key methods of multi-modal information fusion based on data privacy protection. **National Intellectual Property Administration**. Patent for invention. A**pplication number**: 2023111952962 (2023) (to be accept)
- **Hongdao Meng,** Fang Yu, Hongying Liu, Caixiang Yan, Ling Zhang. Research on Status Quo and Effectiveness Evaluation of the Family-School Interaction Models Adopted by a Middle School in Beijing [J]. Education for Chinese After-school (Theory), 2017, 594(12):1-2+10.DOI:10.3969/j.issn.1004-8502. 2017. 04. 001.

Skills & Hobbies

- **Programming Languages:** Java, C/C++, JavaScript, HTML, Node.js, TypeScript, X86, MIPS, Python, R, Matlab, Qt, CSS, X86, MISP
- **Software Packages:** SPSS, Excel, Citespace, NoteExpress, Photoshop, Lightroom, Topaz, Premiere, Wireshark, IPOP, Kali, Eve, Ubuntu (Linux), Docker
- **English Language:** CET4 562 GRE332
- **Hobbies:** photography, driving, public speaking, swimming, badminton, and football