Qingyang Zhang

stevenz3@andrew.cmu.edu • +1 412-657-6580 • www.linkedin.com/in/qingyzhang

EDUCATION

Carnegie Mellon University — Pittsburgh, United States
Master of Science in Information Networking — August 2025 - May 2027

New York University — New York, United States
Bachelor of Science — August 2021 - May 2025
Double major in Computer Science and Data Science
GPA: 3.9/4.0

RESEARCH EXPERIENCE

Advancing Data Selection for Healthcare Foundation Domain Adaptation — Carnegie Mellon University
Advisor: Chenyan Xiong, Associate Professor — May 2025 - Present

- Developed methods to align heterogeneous medical coding systems (ICD, RxNorm, SNOMED, etc.) and apply retrieval-based strategies to identify most relevant external patient samples
- Designed mapping-enabled data selection pipelines to enable healthcare foundation models to adapt across different clinical datasets
- Conducted systematic evaluations to assess how mapping and selection improve performance on benchmarks like EHRSHOT, aiming to enhance model robustness, fairness, and reproducibility in healthcare AI

Automated Radiology Report Generation System — NYU Grossman School of Medicine
Advisor: Yiqiu Shen, Assistant Professor — May 2024 - August 2025

- Developed a comprehensive system for automated pathology report generation by integrating advanced CNNs and ViTs, such as DenseNet and Swin Transformer, with large language models, including GPT-4 and Llama 3
- Applied state-of-the-art Vision-Language Models (VLMs), including MAIRA-1 and MAIRA-2, to knee X-rays and fine-tuned the models for improved performance
- Collaborated with doctors to optimize report template structure for the LLMs' reference
- Utilized optical character recognition (OCR) along with erosion and dilation techniques to reduce noise in radiology images
- Produced accurate and detailed medical reports that significantly aided residents in learning and improving diagnostic skills

Pathology Extraction System for Radiology Reports — NYU Grossman School of Medicine
Advisor: Sumit Chopra, Associate Professor — May 2024 - August 2024

- Designed and implemented a pathology extraction system for radiology reports, utilizing pretraining and finetuning for the BERT-based medical model NYUTron
- Integrated Llama 2/3 models into the system and finetuned them using low-rank adaptation (LoRA) to enhance model adaptability and performance
- Achieved a 135% increase in exposure to key pathologies, improving educational outcomes for medical residents

WORK EXPERIENCE

Powerchina Shanghai Electric Power Engineering Co., Ltd — Shanghai, China
BACKEND ENGINEER INTERN — June 2022 - July 2022

- Developed and optimized internal employee portal and project management web pages using HTML, Java, and MySQL under the SpringBoot and Mybatis frameworks
- Implemented robust authentication mechanisms for login portal, including JSON Web Tokens (JWT) for secure user sessions and OAuth 2.0 for authorization

SKILLS

Programming languages: Python, Java, R, HTML, C++, OOP
Framework and tools: MySQL, SpringBoot, MyBatis, Apache Tomcat, Scikit-Learn, Pandas, PyTorch, TensorFlow, Keras, Matplotlib, Seaborn, Docker, Jupyter Notebook