Juanyun Mai

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EDUCATION

Carnegie Mellon University - School of Computer Science Pittsburgh, PA
Master of Science in Artificial Intelligence and Innovation **May 2024**
Nankai University Tianjin, China
Bachelor of Engineer in Computer Science and Technology, **GPA**: **3.9/4.0** **June 2022**

PROFESSIONAL EXPERIENCE

Set Sail Venture Ltd (Meta's official partner) Hong Kong, China | Remote
Software Product Intern **Jan. 2022 - July 2022**

- Developed a data analytics platform using SAAS tools Appsmith and Amplitude and MongoDB query APIs with features i.e. number of new users, daily active users, stickiness of subscriptions, transaction trends, etc. to provide better business insights
- Researched and designed new features including auto-user-guide for newly onboarded users and user notifications journey with email and in-app notification templates for existing users
- Designed and completed the UAT feature testing before the official product launch and submitted 54 feature enhancements and bug reports based on the feedback; completed the user-guide manual for the platform with tens of thousands of views

RESEARCH EXPERIENCE

Intelligent Recognition and Labeling System of Lung Nodules Image based on Deep Learning Tianjin, China
***Research Project Leader,* Trusted AI-System Lab** **May. 2020 - Aug. 2022**

- Led the first national undergraduate research project in the lab with promising research results published in papers and a software system demo on Intelligent Lung Nodule Recognition and Labeling
- Implemented 2D and 3D Object Detection models on lung CT images from scratch; proposed a Multi-head and Spatial Attention network with False-Positive Reduction for lung nodule detection, which surpasses the state-of-the-art models by 2.64% in average FROC and 6.39% in false discovery rate; published a paper as the 1st author to BIBM 2022
- Constructed the first Lung Image Dataset with Pathological information for lung cancer; analyzed distributions of various features among lung image datasets with Auto-Encoders and Embedding; published a paper as 3rd author on MICCAI 2022

Electronic Health Records Synthesis and Automatic Meta-Analysis on Electroconvulsive Therapy Alberta, Canada | Remote
***Research Assistant*, Mitacs | University of Alberta** **July 2021 – Oct. 2021**

- Proposed a pipeline to evaluate papers' originality in 70 subcategories in Health and Medical Science; trained LSTM to recognize and embed key features of paper abstracts; trained Bert to predict types of papers, achieving 98.93% accuracy for systematic reviews and 98.53% accuracy for meta-analysis
- Leveraged multiple models such as CTGAN, and MedGAN to generate synthetic medical data of a dataset with over 60,000 Electronical Health Records collected by the Canadian government for machine-learning community
- Improved the evaluation metric proposed by MIT on privacy leakage risk for synthetic data by allowing mixed types of input based on machine learning models; designed and implemented a novel evaluation metric based on Attribute disclosure

ACADEMIC PROJECTS

It-Knows-All Search Engine on Nankai University **Sept. 2020 - July 2021**

- Created inverted index based on BSBI and optimized by applying BFS algorithm, led to a 24x efficiency gain; employed VB coding and Γ coding to compress index, achieving 49.45% and 45.48% in compression ratio
- Utilized SIMD, Pthread, OpenMP, and MPI to parallel the calculation of query-document similarity, which resulted in 10x performance improvement on both x86 and ARM architectures

Anti-COVID 19 Website for Community Management **Feb. 2020 – June 2020**

- Used Vue for the front-end of the website; Integrated Spring with SpringMVC to implement the back-end functionality; Managed data with MySQL database via MyBatis; utilized MD5 message-digest algorithm to reduce privacy leakage risk

SKILLS

Programming Language and Framework: Python, PyTorch, Java, C++, CSS, HTML