Zixin CHEN

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EDUCATION

Department of Mathematics, Hong Kong University of Science and Technology (HKUST)   Hong Kong, China
Bachelor of Data Science and Technology
Minor major in Business   Sep 2018 - June 2022 (expected)
Awards: Dean's List (Fall semester 2019-2020), Dean's List (Fall semester 2020-2021)
Relevant & Outstanding Coursework(selected):   Statistical Machine Learning(A+), Applied Statistics(A+), Probability(A+),
Stochastic Modeling(A+), Intermediate Investments(A), Operations Management(A), Environmental Science(A)
CGA: 3.524 (about top 15 percent)

RESEARCH EXPERIENCES

Knowledge Graph Construction for legal contracts   Hong Kong, China
Final Year Project, HKUST, Supervisor: Prof. Song Yangqiu   Sept. 2021 – May 2022 (expected)
- Finished the research proposal, literature review and design workflow
- Reproduced some related models for further development

Gaining insights from noisy data: designing transparent system for online decision-making   Hong Kong, China
Research Assistant, HKUST, Supervisor: Prof. MA Xiaojuan   Jan. 2021 – Sept. 2021
- Responsible for the development of experimental database with Parse Platform
- Participated in designing the coding scheme as well as the coding of user data & top keywords data
- Crawling web data from TripAdvisor to collect all hotels' data in London
- Participated in the experimental web page development and analyzing the experimental data
- <u>**This paper has been submitted to CHI 2022 under review (as the fourth author and the only undergraduate author)**</u>

Exploring Collaborative Feature Engineering with Mixed Suggestions in Computational Notebooks
- Collected and arranged the valuable human-provided features from Kaggle
- Developed an extension on Jupyter Lab to display our feature visualization under specific cells and realized several external extension functions for further research requirements
- Evaluated and refined the experiments designs (e.g., model selection, assessment criteria selection, pipeline structure)
- Configured, evaluated, and maintained the experiment servers
- Recruited experimental subjects, participated in user experiments, arranged, and analyzed the experimental data
- <u>**This paper has been submitted to CHI 2022 under review (as the fifth author and the only undergraduate author)**</u>

RNN for Biological Neural Networks   Hong Kong, China
Research Assistant, HKUST, Supervisor: Prof. HU Yu   Sep. 2020 – Dec. 2020
- Reproduced one and integrated two of Bio-RNN related papers to gain insight about how complex temporal dynamics in real brain neural networks can be added into some regular RNN such as LSTM and GRU
- Built up a biological modified RNN model to mimic both individual activity of each neuron as well as the coordinated population level behaviors
- Evaluating and analyzing the model with several well-known biology experiments (parametric working memory, transient & persistent memory delay) and comparing with the baseline results implemented with mice.

SELECTED PROJECT EXPERIENCES

Text Sentiment Analysis

- Utilized data pre-processing methods such as tokenize and n-grams, together with data analysis approaches (e.g., Pearson correlation, ANOVA, etc.) to fitted different models (e.g., Logistic regression, LSTM with Word-2-Vec, CNN and BERT) to analysis the sentiment of restaurant reviews data. As the result, our prediction accuracy ranked 2nd among a total of 40+ groups.

Social Network Mining

- Utilized Deep Walk and Node2Vector methods to work on link prediction with the data of social network connections.

Rating Prediction

- Utilized Wide & Deep Learning (WDL) and Neural Collaborative Filtering (NCF) models to analysis and estimate a business rating prediction system.

COMPETITION EXPERIENCES

City Change Maker — Beijing, China

Team Member, Tsinghua University — Jul. 2019 – Aug. 2019

- Designed a platform application called "The Green House" to call for energy-efficient buildings and improve the communication efficiency between users and architects.
- As one of the two speakers to present in the interim and final open replies.
- The group won the first prize (No.1 among all ten groups).

OTHER EXPERIENCES

Film Society — Hong Kong, China

Publication Secretary, HKUST — Dec. 2018 – May 2020

- Designed and issued 8 film-related magazines
- Interviewed director Wong Jing and organized interview manuscripts as an article in the semiannual magazine
- Organized the 'Boat Trip' function as the 'Person in Charge'

TECHNICAL SKILLS

Language:	C/C++, Python, R, SQL, JavaScript/TypeScript
Tools:	GitHub, Oracle, HTML/CSS, Photoshop, InDesign
Frameworks:	NumPy, Pandas, PyTorch, TensorFlow