YINGZHE DONG

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EDUCATION

Northeastern University (NEU), Shenyang City, Liaoning, CHN Sept. 2017- Jul. 2021

- Major: Finance and Banking (Fintech) Minor: Software Engineering
- Degree: Bachelor of Economics
- GPA: 3.87/5.00 (88.7/100)
- Relevant Coursework: Computer System Concepts, C Programming Language, Python Program Development, Data Structure, Introduction to Database, Internet Financial Project Practice, Data Analysis and User Portrait, Mathematical Models and Algorithms in Data Science Networks

McGill University, Canada Aug. 2019- Sept. 2019

Business Data Analytics Training Program

- Courses taken: Data Analysis (A), Agile Project Management (B+)

PUBLICATION

Yingzhe Dong, Da Yan, Abdullateef Ibrahim Almudaifer, Sibo Yan, Zhe Jiang & Yang Zhou (2020), **BELT: A Pipeline for Stock Price Prediction Using News**, *IEEE Big Data 2020*

RESEARCH & COMPETITION EXPERIENCE

BELT: A Pipeline for Stock Price Prediction Using News [PDF] Sept. 2019-Oct. 2020

Advisor: Professor Da Yan, University of Alabama – Birmingham*, the U.S.*

- Extracted informative features on stock price direction from Twitter using the state-of-the-art natural language processing (NLP) model BERT, which were then used as covariates to a many-to-many stacked LSTM model that also utilized historical stock prices to predict the direction of future stock price.
- Captured 5,237 recent news reports from major media outlets and reputable investors on Twitter, chose 4,380 relevant tweets out of the total 5,237 thanks to our quality control over the news sources, and used 2,830 tweets with consistent sentiment labels to fine-tune our sentiment classifier.
- Enhanced the accuracy of relevance analysis to 94.7% and sentiment analysis to 84.5% by using a masking bitmap and taking a concatenation of both the transformed feature vectors from the pooled output and sequence output.
- Connected affective attributes to the many-to-many autoregressive LSTM network and achieved the performance that exceeded the state-of-the-art algorithm Stocknet.
- Wrote a paper titled **BELT: A Pipeline for Stock Price Prediction Using News** as the first author, which was included in ***IEEE Big Data 2020*** as a regular paper (the acceptance rate is about 15.5%, 83/535).

Music Arrangement Using NLP May 2019-Dec. 2019

Advisor: Professor Lixin Tang & Dr. Chege Legen, NEU

Key Laboratory of Data Analytics and Optimization for Smart Industry, Ministry of Education, China

- Conducted a music arrangement according to the actual conditions in the project, such as identifying the situation inside the ironmaking vessel based on the sound made.
- Built a storage system with MySQL and MongoDB for non-structural data like audios, pictures, and texts, decomposed audios with waves, and employed librosa to extract beats and visualize audios.
- Developed official websites with React, Redux, and Node.js using responsive web design to display some of the academic results in the lab.
- Built reusable components and front-end libraries for future use.

An Empirical Study on Social Networks in the Sharing Economy (**National Project**)Feb. 2019-Dec. 2019

Advisor: Professor Yongli Li, NEU

- Studied how the online social network impacts social recommendation based on authentic data from Airbnb.
- Took charge of literature retrieval and model building: crawled the data from 4,300 Airbnb users using Scrapy, applied Graph Theory metrics to construct user-based social networks and classified users, and built models to analyze different user groups.
- Awarded the outstanding national research project.

INTERNSHIP

Tian Xue Wang Co. Beijing
NLP Algorithm Engineer, Department of Core Algorithm Mar. 2021-May 2021

- Implemented and upgraded the algorithms to an automatic scoring system for spoken English, which is integrated into the app, covering both PC and mobile.
- Scored Q&A questions using a machine learning model solution to construct text similarity features between the student's recognition text and multiple reference answers, and then put them into the LGB model together with speech features to conduct regression, boosting accuracy from 75% to 85%.
- Implemented features and models based on over 30,000 data according to region using Python, and deployed them into the Polly engine using C++.
- Built a back-end service with Python and Flask for the mock exam, serving over 200,000 users.
- Researched and tried a number of innovative ideas to solve practical problems, such as automatically generating answers to Q&A questions to reduce the teacher's workload and applying text smoothing to solve the problem of students' repetitive answers due to nervousness.

Kuaishou Technology Beijing
Data Analyst, Department of Government Affairs Nov. 2020-Feb. 2021

- Set up the department data center from 0 to 1, drove and led data reform and innovation to better meet the internal data needs of the department while applying analytical capabilities to guide the business.
- Undertook the initial work of data development and met the data requirements of the department: utilized SQL to retrieve data from Hive and completed over 1,500 SQL queries, wrote the SQL template, and created the corresponding visual Kanban to support the unified and efficient data queries and statistics, and standardized data caliber.
- Provided the strategies support for recommending high-quality works to the operation side, and developed an appropriate public release strategy based on the characteristics of the published works of different secondary vertical classes.
- Calculated resource allocation for different queues and periods around the internal resource pool of the department, optimized the code and configured a fitted engine.
- Conducted the quantitative analysis (Gini-Simpson index and Shannon-Wiener index) for the ecological diversity of the primary vertical classes to prevent the recommendation system from being good at working out an optimal local solution that resulted in the ‘Matthew effect’ of distribution.

LEADERSHIP

Team Leader, Basketball Team, NEU Mar. 2018-Nov. 2020

- Led the team to participate in competitions.
- Awarded the First Prize in the Basketball Competition hosted by the School of Business Administration, and the Second Prize in Jianlong Steel Basketball Match.

Training Camp for Overseas Economic Management Scholars, NEU Jul. 2018- Aug. 2018

- Discussed key economic issues with international scholars such as Kenneth Lloyd Schoolland.
- Awarded as an excellent trainee.

Model United Nations Conference, Shenyang City, Liaoning Province, China Dec. 2017

- Discussed the issue of Brexit (the UK leaving the European Union).

Model United Nations Conference – United Nations Environment Programme (UNEP), Jilin Huaqiao University of Foreign Languages Dec. 2017

- Discussed the detailed rules, regulations and development of UNEP.

OTHER AWARDS

Second-class Scholarship, School of Business Administration, NEU Mar. 2021
First-class Scholarship, School of Business Administration, NEU Dec. 2020
First Prize, Gauss Cup National College Student Mathematical Modeling Competition Feb. 2019
Excellent Student Leader, School of Business Administration, NEU Dec. 2018
Third-class Scholarship, School of Business Administration, NEU Sept. 2018

TECHNICAL SKILLS

Languages: C, C++, Java, Python, SQL, HTML, CSS, Javascript
Frameworks & Tools: Django, React, jQuery, Spring Boot, Linux, Maven, Redis, Docker, Git