Yueqing(Miranda) Li

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Education

The University of Arizona – PhD in Management Information Systems (MIS), Tucson, AZ 9/2021 - present

Carnegie Mellon University – Master of Information Systems Management, Pittsburgh, PA 12/2020

Courses: Introduction to Deep Learning, Pattern Recognition Theory, Database Management

Shanghai University – Bachelor of Management, Shanghai, P.R. China 6/2019

Major: Information Management and Information System

Academic Projects

Course Project: Deep Reinforcement Learning in Quantum Tic-Tac-Toe Pittsburgh, U.S

Instructor: Professor Bhiksha Raj 09/2020-12/2020

- Conducted in-depth research on Reinforcement Learning, and reproduced the structure of AlphaGo Zero
- Designed and implemented the game environment, action policy of Quantum Tic-Tac-Toe with teammates
- Devised the Monte Carlo Tree Search method, and integrated it with the model training pipeline as policy improvement operator and value evaluator

Master's Capstone: Artificial Intelligence Solution for Remote Proctoring Pittsburgh, U.S

Advisor: Daniel Kambic 09/2020-12/2020

- Responsible for the design and construction of all machine learning models, literature review and investigation
- Carried out feature extraction and embedding of the online examination video based on the MobileNetV2 model; compared the embeddings with the examinee's pre-shot photo; detected the aberration behaviors
- Enforced similarity comparison through the embeddings of the examinees' pre-shot photos and features of ID photos based on ResNet50 model
- Designed the pipeline of exam video processing and machine learning model training, integrated all functions of the system to get a complete prototype

Course Project: Developed An Deep Learning Library from Scratch Pittsburgh, U.S

Instructor: Professor Bhiksha Raj 09/2020-12/2020

- Implemented the forward and backward functions for the Autograd (a set of methods to calculate and transmit the gradient of a tensor in the computational graph)
- Created the deep learning modules such as Linear Layer, CNN, RNN, GRU, etc.
- Completed the loss function, normalization and optimizing methods such as CrossEntrophy, Batch Normalization and Stochastic Gradient Descent

Course Project: Research on Speech Recognition And Transcript Generation Method Pittsburgh, U.S

Instructor: Professor Bhiksha Raj 10/2020-12/2020

- Padded the dataset by the time window for each utterance, and sliced the dataset into chunks frame by frame
- Classified the processed datasets by basic MLP method, and regarded them as baseline performance of the model
- Constructed 1D CNN model for feature extraction, and aligned with Bi- LSTM model for Connectionist Temporal Classification (CTC) Loss training
- Adopted Pyramidal Bi-LSTM Network as the encoder, 2 layers of Bi-LSTM with embedding and projection as the decoder; used attention mechanisms to enhance the expression of the model
- Implemented greedy and beam search methods for the output of both CTC and Encoder-Decoder model to gain the text outputs

Undergraduate Thesis: An E-commodity Label Classified Method Based on Natural Language Processing And TextCNN Shanghai, P.R. China, 12/2018-6/2019

- Designed a crawler program to capture product data from an e-commerce website by Python
- Tokenized the text data and conducted the word embeddings by using Word2Vec model
- Trained a TextCNN model to implement the text classification and optimized it with the Attention mechanism

Data Transmission Model Based on Blockchain Technology and Encryption Algorithm Shanghai, P.R. China
06/2018-08/2018

- Devised a data transmission model based on the encryption algorithms(AES, RSA) and blockchain technology
- Utilized Solidity to create smart contracts; formed private chains on Go-ethereum and deployed smart contracts to transmit encrypted data

Internship

Leveraging Financial News Sentiment to Generate Alpha Based on 1-D CNN Model Pittsburgh, U.S.
Research Assistant, Advisor: Professor Sunder Kekre 5/2020-8/2020

- Labeled the records according to the 1 day/ 5 days/ 30 days percentage return; generated input channels(e.g., daily sentiments, daily trading volume, relative sentiment indicator, etc.) based on ticker sentiments and prices
- Applied batch and instance normalization for each channel; selected the appropriate normalized method based on channels' properties
- Designed the 1-D CNN model and tuned hyper-parameters to increase the monthly prediction accuracy to 70%
- Completed a program for automatically retraining the model over a specified retrained interval

Ericsson (China) Communication Co., Ltd. Shanghai Branch Shanghai, P.R. China
ML&AI Assistant 11/2018-4/2019

- Built a time series model to predict the future volume of base stations for major mobile providers
- Constructed anomaly detection tools using multiple methods (Random Forest, SVM, PCA)
- Designed a sliding window method and associated it with the anomaly detection methods to detect the anomaly intervals in million-scale data set, improving the accuracy of the model by 15%
- Managed model scripts on the Linux environment and associated them with front-end frames

Shanghai Quantum One Network Technology Co., Ltd. Shanghai, P.R. China
Big-data Algorithm Intern 04/2018-06/2018

- Used MySQL to process user data, created data view and monitored daily data changes
- Conducted feature engineering on user data; used machine learning algorithms (MLP, Random Forest) to predict whether the user would overdue repayment / whether the company can profit from the user

Honors & Awards

Title of Outstanding Student	2015-2018
The Scholarship of Shanghai City	2018
The University-level Special Scholarship	2018
The Winner of Mathematical Contest in Modeling Meritorious (Top 10%)	2018
The Third Prize of China University Student Computer Design Contest	2018
The Third Prize of Shanghai College Student Computer Application Ability Contest	2018
The University-level First-class Scholarship	2016

Technical Skills

Operating Systems: Linux, Mac OS, Windows

Programming Languages: JAVA, Python, C, C++, CSS/HTML, SQL

Software: VMWare, MobaXterm, Git, Android Studio, Eclipse, MATLAB, Pycharm, Stata, Visual Studio