Daniel (Da You) Mao

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Summary of Qualifications

- Languages: Python, R, SQL, MATLAB, and C/C++.
- Libraries: TensorFlow, PyTorch, scikit-learn, OpenCV, NumPy, pandas, etc.
- Strong knowledge in machine learning and neuron networks concepts gained by watching courses and tutorials online.
- Great team player refined when completing group assignments/projects.
- Quick and eager to learn as proved by my 3.98 GPA record.

Projects

Object Detection with YOLO — Dec. 2020 – Mar. 2021

- A Python script that detects objects of 20 classes in an image and draws bounding boxes.
- Trained a network with 24 convolutional/pooling layers followed by 2 fully connected layers in PyTorch.
- Self-tuned a few hyperparameters including in/out channels and kernel sizes to speed up the training process.
- Evaluated performance using mAP (mean average precision).

Sentiment Analysis (NLP) — Aug. 2020 – Sep. 2020

- A Python script that predicts the binary category of emotion in a sentence.
- Cleaned data with NLTK library by eliminating punctuations and stop words and lemmatizing each word remaining.
- Fitted and compared multinomial classification, logistic regression, and LSTM models.
- Achieved accuracy of 80% in training and 76% in testing.

Stock Price Prediction — Dec. 2020 – Jan. 2021

- A Python script that predicts weekly closing prices in the following month.
- Preprocessed data using normalization and standardization techniques.
- Trained a network with LSTM and dense layers in Keras.
- Evaluated my model using cross-validation and other techniques.

Chamber Crawler 3000 Game — August 2020

- A course group project implementing a command-line game in C++.
- Applied design patterns including the observer pattern and the decorator pattern.
- Demonstrated solid understanding of class dependencies and inheritance in 'Player', 'Enemy', and other classes.
- Automated tests with bash programs in a Linux environment to test moving and attack behaviors of the player.

Relevant Courses

Data Analysis, Computational Statistics, Applied Linear Models, Mathematical Statistics, Data Structures, Algorithms, Convex Optimization, Linear Algebra, OOP