Ziyue Yang

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LINKS

Website: **zyang.dev**
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COURSEWORK

(click for more details)

GRADUATE

Statistical Methods for Machine Learning
ConvNets for Visual Recognition
Deep Learning and Neural Networks
Applied Regression Analysis
Stochastic Processes

UNDERGRADUATE

Real Analysis
Multivariable Calculus
Linear Algebra
Non-linear Optimization
Probability
Statistical Inference
Theory of Statistical Practice
Enriched Data Structures and Analysis
Systems Programming & C
Assembly & Computer Organization
Software Design

SKILLS

PROGRAMMING

Python · R · SQL · C
Java · Swift · JavaScript

DATA SCIENCE LIBRARIES

PyTorch · TensorFlow · Pandas
Numpy · Sci-kit Learn · Matplotlib
Seaborn · Tidymodels · Keras

WEB TECHNOLOGIES

Django · React · REST · Rails
MongoDB · Jest

OTHERS

AWS · Git · UNIX · Kubernetes
Android · iOS · Git · Scrum · Jekyll

EXPERIENCE

BIGTHETA | May - Sep 2020, (Remote) Toronto, ON

Project Lead; Software Developer

- Introduced software development tools
- Taught design principles (e.g. Object-Oriented design)
- Demonstrated full-stack development process: including front-end, back-end development, and SQLite data querying.

KWG GROUP HOLDINGS | May - Sep 2020, (Remote) Toronto, ON

iOS Developer

- Contributed to the Swift development of iOS app *Cohesion*, an reservation tool for shared workspaces/offices.
- Implemented React-Native based front-end features for mobile.
- Tested app features using the Jest framework.

TECHNICAL PROJECTS (MORE)

FORECASTING TSLA STOCK USING AUTOREGRESSIVE INTEGRATED MOVING AVERAGE MODEL

We make predictions of Tesla's stock index using ARIMA model, which converts non-stationary stock data to stationary, allowing us to apply time series analysis and make more accurate forecasting. ARIMA is one of the most popular models to predict linear time series data.

CONVNETS FOR SENTENCE CLASSIFICATION

Convolutional neural networks (CNN) trained on top of pre-trained word vectors for sentence-level classification tasks. Simple CNNs like such with little hyperparameter tuning and static vectors achieves excellent results. The CNN models improve upon the state of the art on 4 out of 7 tasks, which include sentiment analysis and question classification.

GENERATIVE AND DISCRIMINATIVE CLASSIFICATION MODELS

We fitted and compared both discriminative models (Multi-class Logistic Regression Classifier) and generative models (Gaussian Discriminant Analysis) on the MNIST dataset. The models both achive decent results and need further improvement. The project focuses on the probabilistic view of machine learning.

HOUSE PRICES PREDICTION WITH XGBOOST

Built prediction model using the gradient boosting technique with hyperparameters chosen with randomized searching algorithms. Demonstrated uses of fundamental machine learning knowledge including Principal Component Analysis, feature engineering, least absolute shrinkage and selection operator, etc.

AGENDA

Android calendar app which allows multiple users to store event data locally. Features include searching events by names, creating events based on given frequencies, and tagging events. I designed and implemented the Android GUI; I also programmed SQLite database helper to query user data.

EDUCATION

UNIVERSITY OF TORONTO | Sep 2018 - Jun 2022 (Expected)

Honours Bachelor of Science, Computer Science, Statistics, Mathematics

- **Recognized Group Leader**, *Enriched Data Structures and Analysis*
- **LearnAI Associate**, *UofT Artificial Intelligence Group*
- **Orientation Leader**, *Computer Science Student Union*
- **2018 Scholarship Recipient**, *University of Toronto President's Scholarship Program*