Yunhao Shi

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EDUCATION

Rutgers University, New Brunswick, NJ
M.S: Computer Science September 2020 – In progress
Rutgers University, New Brunswick, NJ
M.S: Computer Engineering (GPA 3.8) September 2018 – May 2020

Academic Honors

- DEANS LIST**:** 2015 Spring Semester, 2016 Fall Semester (GPA 3.5 or higher)
- Graduate Cum Laude

WORKING EXPERIENCE

Software Development Engineer Intern, **SunGard Kingstar Data System (China) Co.Ltd**
June 2019 – August 2019 Shanghai, China

- Developed an automated diagnose tool with Python to test the connectivity and robustness of *SpxGateway* server system, program supports multi-processing features and statistical analysis on response data.
- Designed and release a cross-platform TCP/IP socket encryption demo program in C++ using Visual Studio.
- Overwrite FIX protocol API and update the C++ source code in the backend architecture handler to improve the speed of identity verification process over 50 percent.

TECHNICAL SKILLS

Programming language: Python, C++, C, Java, SQL, JavaScript, HTML, Shell.
Skills: Object-Oriented Programming, Algorithm and Data Structure, Web Service, Cloud Computing, Internet Service, Computer Networking, Full Stack Development, Spark, MySQL, SQL, Linux, Amazon AWS.

TECHNICAL PROJECTS

Web-based Stock Forecaster (Software Engineering)

- Implement a web-based management system for stock storage and analysis using Django framework. The program supports RESTful API services to process the URL request from frontend.
- The backend program is written in Python with devised machine learning algorithms to predict stock price and MySQL as the database. The frontend service is written in HTML, JavaScript and PHP.
- The program also includes pattern recognition and caching features to improve overall performance.

Missing Value Imputation with Autoencoder

- Using PCA to analyze and interpret the psychological research data. Mining the interconnected features and generate the graph model to visualize the interconnection of different features.
- Implementing a variational autoencoder (VAE) with Pytorch to impute the random missing data entries. The model can be used to predict continuous, ordinal discrete or categorical value and high prediction 80% accuracy has been achieved.

Movie Recommendation System

- Implemented a movie recommender using collaborative filtering with Spark MLlib machine learning algorithm. Built the model over Netflix dataset and train the algorithm to predict user ratings.
- Develop a Web API around the engine using Flask microframework and deploy the model to the online server to obtain personalized movie recommendations for multiple web applications.

Remote Procedure Call Library

- A lightweight RPC protocol to enable user register and call the functions on the cloud in local environment.
- API interface is provided to connect with multithread server to handle request and to share resource. The encryption socket is implemented with in-built Python library to ensure data privacy.