Nianmin (Mickey) Guo

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EDUCATION

Bachelor of Science in Computer Science/Cognitive Psychology   Sep 2014 - May 2019
Khoury College of Computer Sciences, Northeastern University, Boston, MA   GPA: 3.45

Awards and Activities:
Dean Scholarship by College of Science   Sep 2014 - May 2019
President of Japanese Culture Club   Sep 2017 - Nov 2018

Relevant Coursework:
Natural Language Processing, Networks and Distributed Systems, Human Computer Interaction, Software Development, Blockchain (Online), Object-Oriented Developing, Algorithms, Theory of Computation, Artificial Intelligence, Laboratory in Cognition, Seminar in Psycholinguistics

EXPERIENCE

Data Analyst / Software Development Engineer Intern   Jul 2018 – Dec 2018, Aug 2019 - Nov 2019
Massachusetts Bay Transportation Authority, Procurement and Logistics   Boston, MA
⬤/MBTA-Procurement-Analysts

- Developed internal tools using **Angular**, **Node** with **mongodb** that improve productivity of purchasers by gathering and visualizing Purchase Order / Requisition information; and automation of bid / contract generation
- Created data scraper package in **Python** for **PeopleSoft** Purchasing Module with **Selenium** framework
- Automated data gathering and report generation using a **Python/Pandas** - **bash** - **mongodb** pipeline, with reports built in **R** and **Tableau**
- Administered local development and production servers with **bash** and **python** scripts
- Utilized **R** to analyze 50k+ purchase order data and purchaser performances with archiving data to **mongodb** for future analysis
- Helped the group migrating internal codebase to intranet server by collaboratively determine project structure and teaching team members Linux command line fundamentals
- Lead a small development team and coordinated with executives and end users for project improvements

PROJECTS

Coinboard – Cryptocurrency Trading Dashboard in Terminal

- Implemented a client application in **Golang** with ability to view Cryptocurrency market prices and creating market orders with Coinbase Pro and Poloniex
- Created asynchronous fetch and post **microservices** as **goroutines** for viewing and interacting with cryptocurrency exchanges
- Designed Text-Based User Interface for terminal use across platforms

Jeopardy! – Mobile Game & Python Web Crawler

- Implemented MVC in **React Native** to build Jeopardy-style game with single player mode (against archived historical contestants) and real-time multiplayer modes using **Websockets** with **Firebase** as backend
- Utilized **Firebase** Realtime Database and Cloud Functions through both **javascript** and **python** to store and process user information, ongoing multiplayer sessions, and question data
- Deployed **heroku** dyno in **python** for scheduled question-crawler updates
- Collaborated in a small team and made architectural decisions such as database format and game logic

Transcriptoken – Ethereum Blockchain Token for Student Transcripts

- Implemented an **ERC721** contract in **Solidity** that stores non-fungible student transcripts on the **Ethereum** Blockchain
- Utilized **Openzepplin Framework** with **Truffle Suite** for smart contract development
- Created a web-based front end with **web3.js** for students and institutions to request, create, view, and transfer the transcript token

News Headline-based Foreign Exchange Rate Prediction

- Used **Pandas**, **numpy** and **nltk** to perform preprocessing on currency exchange archive and news headline data files
- Implemented **attention-based LSTM models** using **keras**, predicting exchange rate variations based on news articles, to achieve 60% accuracy
- Deployed preprocessing and model on **Azure VM** to speed up training

Divvy – Collaborative Bill Splitting App

- Implemented an **React** mobile web app that helped large parties splitting a bill collaboratively by uploading photo of receipt and select consumed individual items.
- Designed user interface using best human-computer interaction practices in a small development team