Na Li

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QUALIFICATION & SKILLS

- Programming languages: Java, Python, R, C, MATLAB, JavaScript, Linux/bash shell script.
- Database management: MySQL, PostgreSQL, Firebase.
- Software engineering skills (Node.js, ReactJS, React Native, CSS, HTML, Bootstrap, RESTful APIs, Espresso, Git, Agile process, etc.).
- Machine learning, statistical analysis, linear/non-linear optimization, data visualization tools.
- Big data, Google cloud, high performance computing, virtual machine (VM).

SELECTED PROJECTS

Budget Management App:

- Designed and implemented the frontend of the app. Built report interfaces and data feeds using bar charts, line-graphs and histograms.
- Developed and improved the backend product code, including ER diagram, SQL queries and server-client connections. The tools used are Java, MySQL, Eclipse, Android Studio, Git.
- Created and executed automated software test plans, cases and scripts. Conducted Unit and UI testing using JUnit and Espresso. Achieved 80% code coverage.

Fitness Tracking Mobile App:

- Created the interface of the app by paper prototyping, visual and interactive designs using Adobe XD. Implemented the frontend of the app using React Native and ReactJS to allow users to check and modify daily exercise and nutrition intaking information with multiple navigation options.
- Integrated with web API to allow users to update personal and fitness information in the app.

Find Songs to Dance App:

- Extracted 10,000 songs from original data sets and converted HDF5 files to CSV.
- Developed an object-oriented DBMS with PostgreSQL to generate song playlists for dancers. Created the ER diagram and applied SQL queries to manage the database.
- Built a web-based application using JavaScript that allows users to find songs to dance with by various options. The tools used include Node.js, React, CSS, HTML, Bootstrap.

MyWeather App:

- Designed and developed the web-based application as a full-stack developer through Visual Studio Code. Deployed the app to the Heroku cloud platform.
- Built the React frontend using Reactstrap, sent and retrieved data from the Node.js backend through Express server. Rendered the current weather data from PostgreSQL database into a useful UI.

WORKING & LEADERSHIP EXPERIENCE

University of Wisconsin-Madison **Madison, WI**
Teaching Assistant, 2017 - 2020

- Taught Advanced Data Structure Programming. Designed and administrated 4 computing labs per semester and assisted with creating the online teaching courses. Graded and evaluated students' project proposals.
- Guided 5 teaching assistants and instructed 60 students per academic semester.

Team Leader of Optimization Business Project, 2018

- Led a group of 4 people. Designed and developed project plans to reach short and long-term goals.
- Created a business proposal for crypto-currency optimization with optimal portfolio trade curves, placing top place among 15+ teams.

Team Leader of Volatility Characteristics of Facebook Stock, 2018

- Led a group of 3 people. Designed and developed project proposal. Led weekly group meetings in person or via online chatting media.
- Applied various GARCH family models to examine the volatility characteristics of Facebook stock. Investigated the behaviors of daily log return and selected the best GARCH model based on its forecasting performance.

Team Leader of AI Music Generator, 2017

- Led a group of 4 people. Conducted the background research and developed the project proposal. Assisted teammates in project implementation and writing.
- Created an AI music generator for songs with different emotions using restricted Boltzmann machines (RBM). Achieved 85% efficiency in the generation of sad songs, and 35% for happy songs. Built a user-friendly website to allow users to create personalized music libraries.

EDUCATION

University of Wisconsin-Madison, *M.S. in Computer Sciences*, Dec. 2020 **Madison, WI**

- **GPA:** 3.7/4.0
- **Relevant Coursework:** Object-oriented programming, Data Structures, Algorithms, Software Engineering, User Interface Design, Database Management, Operating System, Data Visualization, Linear/Non-linear Optimization, Statistics, Human Computer Interaction, Machine Learning, Artificial Intelligence.

AWARDS

- *Dean's List* **University of Wisconsin-Madison**
- *Mary Heisdorf Scholarship* **University of Wisconsin-Madison**
- *National Endeavor Scholarship* **Shandong University**
- *Excellent Volunteer Award of the 26th Universiade* **Shenzhen, China**