

Mengyu Zhang

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EDUCATION

Johns Hopkins University, Master of Science, Data Science May. 2023
University of California, Los Angeles, Bachelor of Science, Applied Mathematics Major, Statistics Minor Dec. 2020

- Honors: Dean's Honor List, Tau Sigma Honor Society

SKILLS

Programming Languages: Python, Java, JavaScript, HTML/CSS, C++, R, SQL, Tableau, MATLAB, Shell scripting
Frameworks: Spring, SpringMVC, Spring Boot, MyBatis, Hadoop, Apache Spark, HDFS, Django, Flask, React, Vue, Redux, Node.js, Vue.js, AWS Redshift, Amazon S3, Bootstrap, TensorFlow, PyTorch, scikit-learn, Keras, NLTK
Tools: MySQL, SQLite, PostgreSQL, CUDA, Git, Docker, Bash, Linux, Conda, Heroku, Nginx, Restful, Maven, Jenkins, Postman
Core Competency: OOP, Web Application, Backend Development, Microservice, Algorithms, Database Management

PROJECT EXPERIENCE

Campus Second-Hand Platform for Students | Spring Boot, MyBatis, Redis, React Mar. 2021 – Jul. 2021

- Developed distributed e-commerce system based on **Spring Boot** and **Spring Cloud** backend Microservice architecture.
- Created login functionality with **React** using **Firebase**, allowed **Google Authentication** and email sign-in methods.
- Integrated the application with **Redis** as distributed cache for optimizing system performance, **Elasticsearch** for faster product retrieval time, **Spring Session** for session data sharing, **thread pool** and asynchronous task for stability.
- Implemented registration/configuration center with **Nacos**, **Gateway** as gateway, and **Feign** for remote calls.
- Initialized **CI/CD Pipelines** on **Circles** and designed unit test/integration test processes with **Junit5**, **Mockito**, **Jest**.

Social Network Web App | Django, React, AWS, Ajax, jQuery, Bootstrap, HTML, CSS Nov. 2021 – Jan. 2022

- Developed twitter like social website with **Python/Django** backend in Scrum technique in **Agile** development process.
- Constructed responsive front-end web pages with **React.js** and **Material-UI** and managed application state with **Redux**.
- Applied **Redis** to store Token-Based Authentication data with **Spring Security OAuth Server** for user login/register.
- Achieved faster response with **Ajax** and **jQuery**, enabled **MySQL database** on **Amazon RDS** and deployed on **AWS EC2**.

Android Mobile to Cloud Nutrition Web Service | Android Studio, Vue, Docker, MongoDB Atlas Sep. 2021 – Nov. 2021

- Designed food nutrition **RESTful** Web Service with **Java Servlets** that fetched JSON data from 3rd party API.
- Built web page app version with **Vue.js**, and **Vuetify**, and delivered Android app version with **Android studio**.
- Adopted **JWT** and **OAuth2** for user login feature, and deployed **Docker** images with **Heroku** via Container Registry.
- Implemented **Realm** database and deployed with **MongoDB Atlas** on **Google Cloud** for database management.

PROFESSIONAL EXPERIENCE

Data Science Intern California, U.S.
Sikka Software Corporation May. 2022 – Aug. 2022

- Built **ETL Pipelines** with **PySpark** and **Boto3** to update and maintenance over 1 billion patients' data stored on **AWS S3**.
- Connected **AWS Athena** with **PyAthena** and **SQLAlchemy** to perform data management and preview on collected data.
- Constructed **BiLSTM** model with **PyTorch** on **AWS EC2** to predict health indicators for evaluating patients' dental health.
- Detected medical entities from medical notes data with **AWS Comprehend Medical** to perform **EDA** that identified insights on time sequential procedure records, demonstrating feasibility in predicting progressive diseases' procedures.
- Performed word embedding for sequential text using **BioBERT** and **Clinical BERT** constructed by **TensorFlow Keras**.

Software Development Engineer Intern - Machine Learning Beijing, China
Inspur Group Company Jun. 2021 – Jul. 2021

- Built **Selenium WebDriver** on **Python** to enable web crawler for collecting and updating over 1 million images data.
- Designed image editing filters with **OpenCV** to change brightness, contrast and add data augmentation to images.
- Developed and deployed **YOLOv4** object detection model with **CUDA** onto **HUAWEI Bastion Host Cloud Computing Server**, generate prediction on receipt pictures' recognition which led to **95% +** accuracy.
- Built **OCR** invoice recognition product with **Pytesseract**, achieved 77.4% OCR accuracy, improved over 30% baseline.