**Taowei Ji (David)** ·18615965851 · [jtw1091367152@qq.com](mailto:jtw1091367152@qq.com)

**Education**

**Texas A&M University** — College Station, TX Graduated in Dec 2021

*B.S. in Computer Science* | **Major** **GPA: 4.0/4.0** | **Overall** **GPA: 3.94/4.0**

**Experience**

**CBRE Group, Inc** — Senior Software Engineer Feb 2022 – Present

**Host --** App that elevates the workplace experience with digital solution, **10000+** daily active user and many clients

* **Microservices**: **Designed and implemented architecture** with **Java** to enhance the scalability and maintainability, ensuring seamless integration and communication between various components.
* **IoT: Developed IoT solutions** such as **webhooks, listeners, data captures** with **Python** toconnect and manage smart devices and sensors from various vendors on Host platform
* **Data**: collect, process, and analyze user data with efficient **ETL pipelines** using **Spark**, providing valuable insights which ensure the app's functionality and user experience and helps make various decisions
* Managed services with the latest tech stack to ensure **code quality, security, and dependency management**
* Monitored system performance and reliability by setting up promising **loggings, alerts, tracings, and synthetic testing** to proactively identify and resolve issues
* **Involved technology and tools: Java Springboot, Python FastAPI, GitHub, Sonarqube, Renovate, Datadog, Snyk, Cycode, Azure Databricks, Azure Cosmos DB, Azure Blob Storage, Azure postgresql server**

**IXM –** Digital platform that encompasses applications, integrations, and services, uplifts employee experiences, increases resource availability, and supports sustainability

* Designed and implemented a **Retrieval-Augmented Generation (RAG)**, leveraging **LangChain** as the core framework to orchestrate seamless integration of AI models and data pipelines
* Integrated **Elasticsearch** as a vector store for **embeddings**, enabling scalable and high-performance semantic search capabilities; **Neo4j** for **knowledge graphs**, enhancing the system’s ability to contextualize and reason over complex relationships within the data
* Developed a **multi-agent** AI architecture using **LangGraph**, enabling collaborative decision-making and task distribution among specialized AI agents for improved system intelligence and efficiency

**CBRE Group, Inc** — Machine Learning Intern May 2021 - August 2021

* Built **NLP** model for Service Request Classification, deployed model into a webpage for CBRE internal testing
* Optimized the classification accuracy from 60% to 90%, plan of going into production for CBRE Host
* Model selection includes **bag of words, word embedding with RNN, transformer, BERT**
* Implemented model pipeline using **Pandas, scikit-learn, Keras, Pytorch, Azure ml, Flask,** and **Kubernetes**

**Qingdao Tgood Electric Co. Ltd.** —Machine Learning Intern May 2020 - July 2020

* Built model for captcha recognition + object segmentation for autonomous vehicles, visualizing performance
* Explored existing literature and approaches, optimized the segmentation algorithm for real time detection
* Model exploration including **FasterCNN, yolov3/4, ssd,** Optimization including **enabling, data augmentation**
* Implemented model pipeline using **Rosbag, Rospy, opencv, Tensorflow, Pytorch**, and **ImageAI**

**DynImp: Dynamic Imputation for Remote Sensing Data** — Instructor: Dr. Mortazavi Jan 2021 – Dec 2021

* Assisted to publish a paper about significance of dynamic imputation on remote sensing data missingness
* Delivered all code implementation that supports the findings, and rough draft of the paper
* The second Author of the paper, accepted by **IEEE ICASSP 2022, paper ID 2650**
* Major tools include **Pandas, scikit-learn, Keras;** Concepts include **classic imputation, denoising autoencoder**

**Skills**

**Programming languages:** Java, Python, SQL, C++, HTML/CSS, Javascript

**Tools and Fields:** Git + GitHub, Jira, Azure DevOps, Scrum and Agile, Visual Studio Code, Tableau, Docker, Kubernetes,Microsoft Azure, Microsoft Office, High-quality Software Design, Machine Learning/Deep Learning, Data Science, Natural Language Processing, LLM, Computer Vision, Agile Development, Algorithms

**Other:** Completely fluent in both English and Chinese (multilingual)