**Zhengxu Wang**

857-799-0064; [zhengxuwang519@gmail.com](mailto:zhengxuwang519@gmail.com); GitHub: [ZhengxuWangAndy](https://github.com/ZhengxuWangAndy); Linkedin: [zhengxuwang](https://www.linkedin.com/in/zhengxuwang/)

**EDUCATION**

**Boston University, *Master of Computer Science*** (GPA 3.75) Boston, U.S. ***Sep 2022 - Dec 2023***

**Beijing University of Technology. *Bachelor of Computer Science and Technology*** Beijing, China ***Sep 2017 - Jul 2021***

**SKILLS**

**Languages: Python, Java, JavaScript, TypeScript, C++, CSS, SQL**

**FrameWork: Docker, React, Node.js, VUE.js, Spring Boot, Flask, QT-C++, PyTorch, TensorFlow**

**Tools: MySql, OracleDB, SqlServer, MongoDB, Hive, AWS-RDS, Neo4J, ElasticSearch, Nacos, Redis**

**WORK EXPERIENCES**

**BU Spark & UmpScores Software Engineer Intern** Boston, MA ***Jan 2023 – May 2023***

Provided accurate and transparent season long metrics and individual game performance measurements of baseball games.

**Website:** [**UmpScores**](https://www.umpscores.com/)

* Front-end: **React**-redux (**JavaScript** Framework). Create a new table for the hardcoded data in the front-end and add it to an existing table.
* Back-end: **Flask** (Python) with data stored in **AWS**. Update the back-end using newer libraries make the app more scalability.

**Atos Information Technology Co. Ltd Data Engineer**Beijing, China ***Jul 2021 – Aug 2022***

Developed an interactive knowledge graph based on document metadata and content for the company's document management system. Front and back end as independent **micro-services**.

* Backend: **Springboot Admin** starts the **Neo4j** and **MySql** databases, **Nacos** starts the **Java**-written **RestfulAPI** processor and data synchronization program, use **docker** to deploy.
* Frontend: **VUE.js** and **AntV** implement multi-level click expansion of nodes in the graph and file jumping.
* Optimized the **ElasticSearch** micro-service, delivering KG-based search and recommendation functionality and implementing a scalable, distributed deployment. Connected the system to **OracleDB** to provide efficient data management and use **Redis** to accelerate high concurrency search speed.

**Chinese Academy of Sciences Research Assistant** Beijing, China ***Nov 2020 – Jul 2021***

MRI Brain Image Segmentation Assist Alzheimer’s Diagnosis Published Paper: [**China Digital Medicine**](https://drive.google.com/file/d/1WVqT6weYu9A2P0LqteIFvl5sVO8RiIn8/view)

* Added **Self-Attention** and Generalized-Dice Loss to **PyTorch**-based **3D-Unet** model to segment the Hippocampus region and automatically quantify the degree of Hippocampal atrophy. The dice coefficient of the segmentation result exceeds 0.9.
* Completed the visualization of model prediction results using **Matplotlib** and **FreeSurfer**.

**Beijing Asia-Info Data Co. Ltd NLP Algorithm Engineer Intern** Beijing, China ***Jul 2020 – Nov 2020***

* Built **Scrapy Web-Crawler** to get 200k medicine instructions as training corpus, build the **Tensorflow(Keras)**-based **CNN** and **RNN** models to train classification model mean-AP reached 96%.
* Implemented **Transformer** and **CRF** model to implement NER and get triplets, constructed a KG.

**RESEARCH & COURSE WORK**

***Natural Language Processing*** Boston University [Project Paper](https://drive.google.com/file/d/1MTKXlCTXgwdjZYumPGs25rz3AYqC4y6K/view?usp=sharing) ***Sep 2022 – May 2023***

* **ChatBot** using GRU+Seq2Seq implement PubMed QA data to realize medical advice chatbot.
* Using Neo4j as graphDB, **BERT**-based NER model to extract triplet from dataset (same as chatbot trainning data) create a knowledge graph for explain the chatbot's results.

***Objective-Oriented Design – Java*** Boston University ***Sep 2022 – May 2023***

* Designed and built multiple Java applications including Tic-Tac-Toe, Blackjack, Pokémon, and a Bank System. Demonstrating deep understanding of object-oriented programming principles of design, encapsulation, inheritance, and polymorphism.
* Be this course’s grader in the spring semester of 23’.

***User-Centric Data Science***Boston University ***Sep 2022 – May 2023***

* Implemented distributed computing using **Ray** to calculate the **SHAP** values of DL models and instrumented the pipeline to collect performance traces. Visualized these traces to identify bottlenecks and optimize program execution by **Jaeger**.
* Packaged the program as a Docker image and deployed it run on the Mass Open Cloud platform.