Yulong Liang

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Summary

Strong Computer Science background in software engineering and development cultivated by Georgia Tech; Proficient in trending coding and programming across multiple languages and software tools, stay current with the latest advancements in scientific machine learning such as deep learning techniques, model interpretability, and predictive accuracy; Possesses robust data analytics skills with proven experience in research, data optimization, and problem-solving.

Technical Skills

Programming Language: Python, Java, JavaScript, Julia, MATLAB, C, C++, CUDA, Golang, HTML5, CSS, MySQL
Framework & Tools: React, Angular, D3, Node.js, Tableau, GitHub, OpenAPI, Linux, AWS, Docker, Kafka

Education

Georgia Institute of Technology **May 2024**
Master of Science in Computational Science and Engineering *GPA: 3.85/4*

Georgia Institute of Technology **May 2022**
Bachelor of Science in Applied Physics, Minor in Computer Science, Highest Honor Distinction *GPA: 3.83/4*

Work Experience

Georgia Institute of Technology, College of Computing **Aug 2022 – Jan 2024**
Graduate Research Assistant *Atlanta, GA*

- Utilize **Pytorch** to actively involve with current scientific machine learning and uncertainty quantification projects (plasma fusion and DESC stellarator optimization) led by Professor Peng Chen
- Apply **DESC library** to conduct force error balance analysis within the dynamic stellarator structure, generating perturbation results for pressure and rotational transform profiles with a sample size of up to **8000**
- Implemented a projected neural network using **Numpy** to train an input-output map in a 3D stellarator environment, Achieved an impressive reduction in force error for plasma fusion flow by **18%**, demonstrating problem-solving and machine-learning skills

Tencent **Jun 2021 – Aug 2021**
Back-end Software Engineer *Beijing, China*

- Built a back-end server for a cross-platform search system catering to up to **30,000** employees using **Golang**
- Developed and maintained a secure and efficient internal API with **Node.js** and **OpenAPI**, facilitating seamless data communication within the team service system over a **3**-month period
- Designed and implemented a reliable RPC service for the internet system, resulting in a **23%** enhancement in real-time data update efficiency using **tRPC-GO**
- Conducted data cleaning and standardization for **20,000+** employees, contributing to the enhancement of the Tencent Information Security System's data quality and integrity using **MySQL**

Institute of Physics, Chinese Academy of Science **Jun 2019 – Sep 2019**
Research Assistant *Beijing, China*

- Managed and trained **5** databases derived from electronic coherence in a 2D electronic spectroscopy experiment and produced graphical results with visualized data utilizing **MATLAB** and **MySQL**
- Formulated a comprehensive and professional experiment proposal, integrating the acquired numerical results to substantiate the research objectives with **Latex** and **Tableau**
- Designed and implemented an electronic signal detection tool utilizing **Java** and **LTspice**, leading to a **15%** improvement in experiment response time and a **25%** reduction in detection error

Project Experience

Bank Data Management Platform | **Team Member** | *Java, AngularJS, Kafka, MySQL* **Feb 2024 – May 2024**

- Developed a robust data management platform for Citi Bank using **Java Spring Boot** framework and **Apache Kafka**, achieving a **32%** reduction in average response time.
- Customized an informative front-end web page using **AngularJS**, implementing numerous UI enhancements that resulted in a **20%** increase in daily active users
- Built an advanced dataset system using **MySQL** and implemented over **150** unit tests, increasing test coverage by **40%** and reducing bug rates by **25%**

Speech Activity Detector | **Team Leader** | *Python, JavaScript, MATLAB, GitHub Web* **Aug 2021 – Dec 2021**

- Designed a virtual tool using **Numpy** to detect human speech activity and label the corresponding time intervals for various audio inputs, employing a test sample size of **500**
- Processed data with three predictive models: Random Forest, Support Vector Machine and Adaptive Boosting. Achieved an accuracy of **90.8%** in the output results through implementation in both **Python** and **MATLAB**
- Developed a dedicated website using **JavaScript**, **HTML5**, and **CSS** to showcase our accomplishments and document our project report across **4** sections