

# Qi (Leo) Yu

Portfolio: yq-leo.github.io

Email: qiyu6@illinois.edu

LinkedIn: linkedin.com/in/qi-leo-yu/

## EDUCATION

- **University of Illinois at Urbana-Champaign** Champaign, IL, U.S.  
*Master of Computer Science; GPA: 3.94/4.0* Sep.2022 - May.2024  
*Courses: Distributed Systems, Database Systems, Applied Parallel Programming, Manycore Parallel Algorithms, Machine Learning*
- **Dalian University of Technology** Dalian, China  
*Bachelor of Engineering - Computer Science; GPA: 90.4/100, 4.04/5.0* Sept.2018 - Jul.2022  
*Courses: Computer Architecture, Numeric Methods, Operating Systems, Algorithms & Data Structures, Computer Networks, OOP*

## SKILLS SUMMARY

- **Programming & Databases:** JavaScript, Java, Python, Node.js, C++, Golang, MySQL, MongoDB, Neo4j
- **Web Dev & Frameworks:** React, React Native, Redux, Vue, Vuex, TypeScript, HTML, CSS, Sass, Express.js
- **Cloud & Libraries:** AWS, GCP, PyTorch, TensorFlow, CUDA
- **Miscellaneous:** DevOps, CI/CD, REST API, Git, Figma, Linux, Vim, Gurobi, L<sup>A</sup>T<sub>E</sub>X

## WORK EXPERIENCE

- **Jreamscape LLC** Champaign, IL, U.S.  
*Software Engineer Intern* Sep.2023 - Aug.2023
  - **IListenGPT:** Integrated **ChatGPT** with Microsoft Voice for speech-to-text conversion and real-time chat interaction
  - **AWS DynamoDB:** Deployed databases on **AWS DynamoDB** for storage and retrieval of conversation data
  - **React:** Developed front-end and full-stack features of **IListenGPT** including a user profile and personal prompts management page using Express, React, and TypeScript
- **Meituan** Shanghai, China  
*Software Engineer Intern* May.2023 - Aug.2023
  - **DevOps:** Implement **CI/CD** using Meituan's DevTools, streamlining integration & deployment flows
  - **CRM:** Worked individually in adding features to the front-end of Meituan's CRM application Apollo using **Vue3**, boosting the quarterly revenue generated by Meituan's sales force by **more than 20%**
  - **Mobile Development:** Assisted in developing and deploying the front-end of Aesthetic Medicine Product section in Meituan's mobile app, which is used by **600+ million** users, using **React Native** and **Redux Toolkit**

## PROJECTS

- **Raft implementation in Go:** Implemented Raft Consensus Algorithm using **Go** among **distributed machines** on unreliable networks, with **strong consistency** and **high efficiency** on Leader Election and Log Consensus. Implementation passed **fault-tolerance** tests under assorted network failures.  
**Tech:** Golang, Multi-threading, Distributed Algorithms (Mar.2023)
- **RateMyRSOs - A review website for RSOs at UIUC:** Built a **full-stack** web application, RateMyRSOs, which allows students at UIUC to post reviews and ratings to UIUC's different Registered Student Organizations (RSOs). Developed the backend and frontend of the application using **Express.js** and **React**, and hosted the **MySQL** Database on **GCP**.  
**Tech:** React, Figma, Express.js, Node.js, MySQL, GCP (Jan.2023)
- **Drug-drug Interaction Detection through Drug Knowledge Graph (Data Mining, Knowledge Graph, Graph Neural Network):** Constructed large-scale drug knowledge graph and proposed a **DNN** model based on **Conv-LSTM** to predict drug-drug interaction with **AUPR of 0.99** and **MCC of 0.88**.  
**Tech:** TensorFlow, PyTorch, PHP, SPARQL. (Mar. 2022)

## RESEARCH EXPERIENCE

- **Prioritized List Scheduling** Dalian University of Technology  
*Software Developer & Undergraduate Research Assistant* Feb.2022 - Jul.2022
  - **IP:** Encoded priority assignment problem for a DAG task into an Integer Programming (IP) formulation.
  - **Gurobi - Python:** Designed an iterative algorithm to derive minimum WCRT using Python Gurobi solver.
  - **Result:** Proposed algorithm capable of solving IP formulation optimally by involving only 12.67% variables on average.
  - **Journal:** Chang, S., Bi, R., Sun, J., Liu, W., **Yu, Q.**, Deng, Q., & Gu, Z. (2022). Towards Minimum WCRT Bound for DAG Tasks under Prioritized List Scheduling Algorithms. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*.
- **UCInspire - Personalized ML for Edge Computing** University of California, Irvine  
*Undergraduate Researcher* Jun.2021 - Oct.2021
  - **Personalized ML:** Proposed a specialized machine learning schema for resource-constrained distributed systems by exploiting temporal correlations among data and enabling local training.
  - **Test on HAR:** Implemented a two-stage system in PyTorch for task-offloading and tested it on the HAR dataset.
  - **Result:** Proposed method improved resource utilization by 91% and reduced network communications by 84%.
- **Static Job-shop Scheduling** Dalian University of Technology  
*Software Developer & Undergraduate Researcher* Nov.2020 - Jul.2021
  - **JSP:** Formulated the static Job-Shop Scheduling Problem (JSP) into a programmable model in Factor Graph.
  - **Max-sum Algorithm:** Proposed and Implemented a derivative of the distributed max-sum algorithm in C++
  - **Result:** Proposed algorithm capable of resolving large-scale JSPs in an industrial environment with a 3-time faster speed than that of state-of-the-art heuristic methods.