

Runyao Fan

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Graduate student with full-stack development and DevOps experience looking for software development roles

EDUCATION

University of Illinois Urbana-Champaign

Master of Computer Science | GPA: 4.0/4.0

Coursework: Database Systems, Computer System Organization, Human-Computer Interaction, Internet of Things

Champaign, Illinois

Aug 2022 – Dec 2023

New York University

Bachelor of Science in Computer Science, *summa cum laude* | GPA: 3.986/4.0

Coursework: Computer Networks, Operating Systems, Software Engineering, Algorithms, Data Structures

Abu Dhabi, United Arab Emirates

Aug 2018 – May 2022

WORK EXPERIENCE

Egencia, American Express Global Business Travel

Software Development Intern

Chicago, Illinois

May 2023 – Aug 2023

- Added notification expiry feature to company's core **Java/Spring** notification delivery service that processes **over 20,000 notifications daily**. Reduced system load and improved customer experience by discarding outdated messages.
- Integrated compliance report for over 900 services to Backstage, an open-source software catalog. Created 3 Backstage components that query **Elasticsearch** instance through API calls and visualize data using **React** and **TypeScript**.
- Changed metadata fetching mechanism for company's service inspection **Java/Spring** application. Modified data models and optimized API call logic, **reducing task execution time by 80%**.
- Created a Backstage pipeline that automates GitHub file fetching, modification, and PR opening using **TypeScript**.

Microsoft

Software Engineer Intern

Shanghai, China

Jul 2021 – Aug 2021

- Worked on feature update and DevOps tasks for General Availability release of Azurite V3 (link), an open-source emulator of **Azure Storage** that allows developers to test their Azure Blob, Queue, and Table Storage applications.
- Implemented four **REST APIs** (Preflight Table Request, Get Table Service Stats, Get Table ACL, Set Table ACL) and batch transaction error rollback in **LokiJS** database for Azurite. Created test suite using **TypeScript** and **Mocha**.
- Implemented Azurite's CI/CD Pipeline using **Azure DevOps** to deliver binary executables to Azure Blob Storage for consumption by Visual Studio Code team.

PROJECT WORK

Mobile Application Markup Language Editor *github.com/RunyaoFan/MAML-Editor*

- Designed and developed a webpage design and generation application with React and JSON webpage representation.
- Achieved an average reduction in loading time of 93.5% for tool-built webpages visually similar to existing webpages.

Document Classification for COVID-19 Literature *Natural Language Processing*

- Generated nine terminology dictionaries for COVID-19 publications using Termolator, a terminology extraction tool.
- Tuned SVC Square Hinge Loss model with TF-IDF similarity vectors between papers and a base corpus.
- Achieved a Micro F1 score of 80.32 and co-authored a paper selected for the *2021 IEEE MIT URTC*.

Multi-process Synchronization Application *Operating Systems*

- Built an application of concurrent processes that synchronize using POSIX semaphores in **C**.
- Implemented inter-process communication through shared memory segment.

Prototype Food-ordering Platform *Software Engineering*

- Built and deployed the back end of a website that supports user authentication, data persistence, and user interaction.
- Implemented the server and database of the web application using **Node.js**, **Express**, and **MongoDB**.

PUBLICATIONS

- M. Jiang, **R. Fan**, and O. Hussein, "Document classification with termolator for covid-19 literature," in *2021 IEEE MIT Undergraduate Research Technology Conference (URTC)*, pp. 1–5, 2021, ieeexplore.ieee.org/document/9701610

SKILLS

Programming Languages: C++, JavaScript, Java, Python, TypeScript, C

Web Development: React, Vue.js, Node.js, Express, MongoDB, MySQL, Neo4j, Flask