

# Runyao Fan

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

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## EDUCATION

### University of Illinois Urbana-Champaign

Master of Computer Science | GPA: 4.0/4.0

Champaign, Illinois

Aug 2022 – Dec 2023

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

### New York University Abu Dhabi

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

Abu Dhabi, United Arab Emirates

Aug 2018 – May 2022

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

## WORK EXPERIENCE

### Egencia, American Express Global Business Travel

Software Development Intern

Chicago, Illinois

May 2023 – Aug 2023

- Independently addressed a key pain point in Egencia's tier-one notification delivery service. Architected and integrated a message expiry-checking feature for a **Java/Spring** application that processes **over 20,000 notifications daily**.
- Enhanced teams' service-monitoring ability by creating real-time status reporting tools in Egencia's software catalog. Created 3 **React** components that query an **Elasticsearch** instance through API calls and visualize data using **TypeScript**.
- Consolidated multiple data sources to establish a single source of truth for company-wide micro-service metadata. Modified data models and optimized API call logic for metadata fetching, **reducing task execution time by 80%**.
- Streamlined localization task management by automating the integration of a third-party localization solution to Egencia services. Created a pipeline that automates GitHub file fetching, modification, and PR opening using **TypeScript**.

### Microsoft

Software Engineer Intern

Shanghai, China

Jul 2021 – Aug 2021

- Significantly contributed to the timely delivery of Azurite V3 (github.com/Azure/Azurite), an open-source emulator of **Azure Storage** that allows developers to test their Azure Blob, Queue, and Table Storage applications.
- Took responsibility for realizing Azurite's key Table Storage features by implementing four **REST APIs** (Preflight Table Request, Get Table Service Stats, Get Table ACL, Set Table ACL) and batch transaction error rollback in **LokiJS** database instance. Improved code quality check by creating Azurite Table Storage test suites using **TypeScript** and **Mocha**.
- Boosted product delivery efficiency for Azurite by engineering a CI/CD Pipeline in **Azure DevOps**. Simplified code delivery process to the Visual Studio Code team by automating testing, building, licensing, and deliverable storage.

## 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.

### Transmission Control Protocol Implementation *Computer Networks*

- Implemented TCP clients with packet retransmission and congestion control features using **socket programming in C**.

### 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](https://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