

Yuwei Sun

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Educational Background

New York University, Tandon School of Engineering

Brooklyn, NY

Major: B.S Computer Science; **Minor:** Mathematics; **GPA:** 3.75/4.0

09.2021 - 05.2025

CS Courses: Algorithms & Data Structures; Object-Oriented Programming; Intro to Database; Intro to Web Development; Computer Architecture and Organization; Algorithm Analysis; Machine Learning; Digital Logic and State Machine Design; Operating System;

Math Courses: Calculus; Multivariate Calculus; Data Analysis; Discrete Mathematics; Linear Algebra and Differential Equations

Skills

- **Proficient Computer Language:** Python; Java; SQL; C++; HTML/CSS; JavaScript; Verilog;
- **Framework & Database:** Spring Boot, Spring Cloud, Restful API; Microservice, Consul, SpringCloudGateway, OpenFeign, Hystrix; JOOQ; MySQL, Redis, Lua, RocketMQ; Python Flask;
- **Tools & Others:** JIRA, Confluence, Bitbucket, Git/Github; Mockito, Jmeter; Maven, Postman, OOD, OOP, SOLID Design Patterns, DDD; Agile, XML, JSON; GTKWave.
- **Certificates:** Machine Learning(Stanford); Data Analyst Foundations(Google); Data Science Bootcamp(NYU); Software Patent

Professional Experiences

SkillUpIT

Back-End Developer Intern

06.2023 - 09.2023

- Took part in the planning and execution of the "Buy Now" business request. Integrated **Redis** and **RocketMQ** based on the **MySQL master-slave architecture** to enhance throughput, elevating it from the 1000 to the 50000 QPS range.
- Decomposed the existing monolithic order system into specialized promotion and order **microservices** in alignment with **Domain-Driven Design (DDD)** and **SOLID** principles, enhancing maintainability and scalability. Utilized **Consul** as the service registry, orchestrated API routing through **Spring Cloud Gateway**, leveraged **OpenFeign** for declarative API calls.
- Utilized **JOOQ** as the database **Object-Relational Mapping (ORM)** tool and used **Flyway** for database version control and migration, ensuring seamless schema updates and application consistency.
- Bolstered system performance with **cache preheating** for active promotions, significantly reducing response times. Employed **Redis** and **Lua scripting** to ensure **TCC (Try-Confirm-Cancel)** compliance for inventory locking and reversion.
- **Peak-load** shifting order service stress by asynchronously creating order using **RocketMQ**. Implemented "Pay-Check&Cancel" by consuming delay messages. **Optimized optimistic-lock** of updating inventory in MySQL database.
- Integrated **Hystrix** into inventory service to boost system resilience, minimizing fault rates and safeguarding against cascading failures.

Google, Inc

Hardware Product Sprint (HPS) Participant – EE Track

05.2022 - 08.2022

- Selected as one of the 25 students to participate in the Google Consumer Electronics 12 week development program.
- Designed and tested a **PCB** based clock using **microcontrollers**, **C-programming**, **breadboard prototypes**.
- Developed and fabricated a PCB in **KiCAD** and worked with Google engineers to **assemble, code and test** the board.
- Invited to present the final product to Google engineers, product managers, and the HPS community.

Project Experiences

Uber Career Prep – SDE Fellow

01.2023 - 09.2023

- Selected as a top 5% fellow for targeted skill development in Uber 2023 Career Prep SDE Fellow, engaging in **over 40 hours of specialized training** with senior engineers and **14 one-on-one coaching sessions**.
- Comprehend **inclusive design** through scenario-based simulations and gained expertise in **regulatory compliance** while authored a **PRD** for self-driving car sensors, aligned with both local legislation and Uber's product objectives.
- Engaged in specialized workshops and mentor sessions to sharpen understanding of **Algorithms and Data Structures**, implementing key algorithms in **Python** and vital data structures in **C++**.

Air-ticket Reservation System

01.2023 - 05.2023

- Developed customer and staff modules in an airline reservation system using **Python Flask**, **SQL**, and **HTML/CSS**, offering comprehensive features like flight search, purchase, and reviews.
- Designed an **ACID-compliant MySQL database**, employing data normalization techniques for integrity and **pessimistic locking** mechanisms for handling concurrent purchases.
- Acquired practical skills in **client-server communication**, **REST APIs**, and **HTTP methods**, complemented by proficiency in software engineering methodologies like **version control**, **unit testing**, and **documentation**.

Predict Student Performance from Educational Game Play

01.2023 - 05.2023

- Collaborated on a **Machine Learning** project aimed at predicting student learning performance from their game behavior data.
- Utilized models like **Linear SVM** and **5-layer Neural Network**, achieving a prediction accuracy rate of 0.675.