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He Zhou

Software Engineer

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EDUCATION

Master of Science, Information Systems <i>Northeastern University</i>	GPA: 4.0/4.0, Dean's Graduate Scholarship	Sep 2021 - May 2024 Boston, MA, US
• Selected Coursework: Object Oriented Design, Data Structures and Algorithms, High-Performance Parallel ML and AI		
Bachelor of Engineering, Landscape Architecture <i>Huazhong University of Science and Technology</i>	GPA: 3.64/4.0, Graduate with Honors	Sep 2011 - Jun 2016 Wuhan, China

SKILLS

Programming Languages: Python, Java, JavaScript, TypeScript, C++, Kotlin | HTML, CSS
Frameworks: React, Node.js, Express.js, Angular | Spring (Spring MVC, Spring Boot, Spring Security) | Flask
Databases & Tools: SQL: MySQL, SQLite, PostgreSQL, NoSQL: MongoDB | Git, Jenkins, Heroku, Docker, AWS EC2
Others: Wireframing: Axure RP, Figma, Adobe XD | Issue tracking: Jira | ArcGIS | Pop dancing (tiktok.com/@helooophe)

EXPERIENCE

Software Engineer Intern <i>Siemens</i>	Jul 2023 – Sep 2023 Chengdu, China
<ul style="list-style-type: none">Developed the frontend for the Open Industrial Edge (OIE) Ecosystem at Siemens Industrial Software Global R&D Center. Improved OIE's user experience of diagnostics and real-time info dashboard using Typescript, Angular, WebSocket.Optimized OIE's API consuming performance by caching idempotent operations with memoizee. Coded automated unit tests using Jasmine, Karma, which enhanced test function coverage from 17% to 45%.Devised an AWS tool for the internal team, which improved account control and saved 40% time to launch, onboard EC2 instances. Designed APIs with Golang backend engineers and built the frontend from 0 to 1 with Typescript, React, Redux.Built a React scaffold that standardized team coding practices and accelerated overall project kick-off time by 30%.Created 5 interactive charts for the Competency Management project using echarts, D3.js, leading to a 23% increase in user satisfaction of the Competency Assessment module.	
Software Engineer Intern <i>NIO (2nd largest smart electric vehicle manufacturer by revenue in China)</i>	Jun 2023 – Jul 2023 Shanghai, China
<ul style="list-style-type: none">Developed Customer Engagement module for a BI (Business Intelligence) web application at BI Group, which enabled data analysis from 6 dimensions in 400+ stores. This leveraged customer retention strategies for user operation specialists.Constructed SQL queries dynamically based on user's selections and processed the query results using Python, Flask.Implements caching for frequently executed and resource-intensive queries with Redis, which speeded up the average query response time by 60%, thereby alleviating the load on the backend and database.	
Cloud Software Engineer Co-op <i>New York Life</i>	Jan 2023 – May 2023 New York, NY, US
<ul style="list-style-type: none">Developed 20+ user stories and fixing bugs for a cloud-native insurance planning and recommendation system at Digital R&D Lab using Java, Spring Boot, which digitized advice and guidance processes for 23,000 financial agents.Migrated report file storage from PostgreSQL to Amazon S3 bucket by modified related APIs, which offloaded the burden from the database, handled concurrent file retrieval more efficiently and reduced response time by 40% on average.Monitored AWS CodeBuild execution following personal Git pushes in an Agile team. Utilized CloudWatch alarms to respond to and resolve issues, sustaining incident-free deployments and contributing to a high-performing CI/CD pipeline.Optimized API endpoints and centralized existing API calls with the frontend team using JavaScript, Axios following OpenAPI Specification (OAS), which improved code maintainability and led to a 10% decrease in code duplication.	
Technical Product Manager Intern <i>NetEase Games (2nd video game publisher by revenue in China, 5th worldwide)</i>	Feb 2021 – Jul 2021 Hangzhou, China
<ul style="list-style-type: none">Planned features for AI-powered 3D virtual avatar, voice interfaces, chatbot cloud platform services at Fuxi AI Lab.Won 1st place out of 8 teams and gained Tourism Development Fund from Hangzhou government by scheming, launching the MVP version of Virtual Avatar Tour Guide Android App based on Unity, React Native for interactive screens.Enhanced the travel chatbot's accuracy rate to 74% by refining multi-turn conversation workflows with the NLP team.	

PROJECTS

Jobbify — job application tracking web application (full stack)

[GitHub](#)

- A **3-tier** architecture job application management system using MERN stack (**MongoDB, Express, React, Node.js**).
- Secured **REST APIs** with **JWT** for user authentication. Populated the database with mock data and tested on Postman.
- Implemented job CRUD, searching, filtering and pagination functions. Visualized data statistics with aggregation pipeline.

Memie — meme sharing Android application (mobile, CodePath Group Project)

[Certificate](#) [GitHub](#)

- Spearheaded a **7-person** group to form project aims, user cases, database schema and networking from 0 to 1 in **3 weeks**.
- Achieved **2 milestones** by building register, login, and gallery calling features using **Java, Kotlin** with **Android Studio**.
- Set up the parse server on Back4App and managed User, Post, Collection data CRUD using **MongoDB**.

Chatible — real-time chat web application (backend)

[GitHub](#)

- A live chat room application built with **Python, Django, Websocket** (using Django Channels), **Tailwind CSS, Docker**.
- Enhanced scalability by incorporating **Redis** as a channel layer and message broker to distribute tasks executed by **Celery**.

Eazy School — school management portal web application (backend)

[GitHub](#)

- A school management system with student & admin portal using **Java, Spring MVC, Spring Boot**, and AWS **MySQL**.
- Setup role-based access and secured **REST APIs** using **Spring Security**. Monitored the app with **Spring Boot Actuator**.
- Operated students, courses, messages ORM with Spring Data **JPA, Hibernate**. Implemented CI/CD using **Travis CI**.

Order Management Streaming Microservices Application (backend)

[Google Cloud Badge](#)

- Persisted events into Kafka by producing records that represent customer orders using **Java, Kafka Streams**.
- Joined **streaming** order information with payment information and customer data. Defined one set to criteria to filter and branch records. Created a session window for **distributed processing** and a state store for the Inventory Service.
- Created a persistent query which enriched the orders stream with customer info using a stream-table joined with **ksqlDB**.