

# Chengyu(Andy) Bao

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## EDUCATION

### Georgia Institute of Technology

*Master of Science in Computational Science & Engineering*

Atlanta, GA

Aug 2021 – Dec 2022

- **GPA:** 4.0 / 4.0
- **Relevant Coursework:** Software developing, Software Test & Analysis, IOT, Advanced Algorithms, Computer Vision, Machine Learning, Data & Visual Analytics, Computer Simulation

### University of Washington

*Bachelor of Science in Mathematics*

Seattle, WA

Sep 2017 – Apr 2021

- **GPA:** 3.6 / 4.0
- **Relevant Coursework:** OOP, Algorithm & Data Structures, Database Systems

## TECHNICAL SKILLS

Programming: Java, JavaScript, Python  
Server-side: Spring Boot, MVC, Spring AOP, Spring Security, JDBC, Hibernate, Node.js, REST, Microservice  
Netflix Eureka, Gateway API, RabbitMQ, IBM MQ, MySQL, Oracle, MongoDB, JUnit, Mockito  
Client-side: React, React Router, Redux, Hooks, Axios, Angular, RxJS, NgRx, Material UI, Bootstrap  
Cloud Services: AWS (Lambda, RDS, S3, IAM, EC2), GCP  
Others: Jira, Agile, TDD, Postman, Swagger, Gitlab, Linux, Korn/Shell Script, Docker, Kubernetes, Maven

## WORKING EXPERIENCE

### Bank of New York Mellon

*Full Stack Developer, Clearance and Collateral Management*

Orlando, FL

Sep 2023 – Present

- Designed and developed an internal monitoring system using **Java 11**, **Spring Boot**, **Angular**, and **PrimeNG**.
- Handled concurrency with appropriate threading and connection pooling mechanisms to evaluate data consistency across multiple regions efficiently. Integrated with **WebSocket** to power seamless broadcasting of data anomalies.
- Designed a new message workflow utilizing **JMS Template** and **IBM MQ** to correct data discrepancies.
- Utilized the Test-Driven Development approach with **JUnit** and **Mockito** for unit testing. Automated numerous UI and API test scenarios for the collateral engine using **Selenium**.
- Contributed to **data migration** from **Sybase** to **Oracle**, contributed to the optimization of complex SQL queries and stored procedures. Identified legacy queries with high cost and boosted querying time by 20%.
- Participated in **data cleansing** of corrupted data due to human error and misuse of the system. Developed multiple scripts in **Python** to identify incorrect data mapping in a vast dataset of over 850,000 business records scattered across multiple tables and regions. Collaborated closely with the business team to rectify incorrect data.

### Panzura

*Software Development Intern*

San Jose, CA

May 2022 – Dec 2022

- Conducted real world Ransomware attacks in isolated VM. Utilized **Confluent** and **Kafka** to access, collect, and manage malware manipulation data as continuous, real-time streams.
- Utilized **pandas**, **NumPy**, and **Matplotlib** for in-depth data manipulation, analysis, and visualization. Optimized the ransomware detection algorithms for early-stage identification, achieved a remarkable false/no detection rate of 2.5%.
- Collaborated closely with development and data teams to evaluate and address potential vulnerabilities. Conducted presentations to stakeholders and safeguarded client data integrity against emerging cyber threats.

## PROJECT EXPERIENCE

### Online Quiz Maker

*Full Stack Developer*

Atlanta, GA

Jan 2023 – July 2023

- Designed and developed a robust online quiz platform using **Spring Boot** framework. Implemented user and admin systems for seamless user experience and efficient management of quizzes.
- Built the application adhering to the **microservice** architecture using **Eureka** and **Spring Cloud**.
- Used **Hibernate** and **Spring Data Repository** to manage **MySQL** and **MongoDB** databases. Stored unstructured data with **Amazon S3** Buckets. Used **OpenFeign** for synchronous communication and **RabbitMQ** for asynchronous communication among internal microservices.
- Integrated the system with **Spring Security** to efficiently manage user authentication and authorization.