

# ISABEL CHEN

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## SUMMARY

Computer Science graduate with strong backend development expertise. Skilled in Java, Python, and AWS services, with proven success using Spark to build scalable, high-performance solutions. Demonstrated ability in designing robust distributed systems and innovative fraud mitigation tools. Eager to leverage technical skills to strengthen secure, high-availability back-end infrastructures.

## EDUCATION

### University of Michigan - Ann Arbor

*Bachelor of Science, Computer Science*

Jun 2025

- **GPA:** 3.78
- **Achievements:** Minor in Statistics

## PROFESSIONAL EXPERIENCE

### Springer Captial

*Full Stack Developer Intern*

Mar 2025 - Present

*Chicago, IL, USA*

- Engineered and backtested multi-factor alpha strategies using Python with internal simulation frameworks, optimizing factor performance across A-share and U.S. markets and enhancing back-end distributed algorithm efficiencies.
- Utilized C++ with object-oriented design to elevate the backtesting engine's performance under high-frequency conditions, achieving simulation throughput improvements of over 35%.
- Processed millions of rows of tick-level data using NumPy/Pandas and developed scalable, back-end factor validation pipelines with a strong focus on efficient resource management.
- Integrated real-time market feeds via REST/WebSocket APIs and optimized MongoDB pipelines for latency-sensitive analytics on both Linux and Windows platforms, ensuring high availability.

### Temu

*Software Engineer intern*

Jun 2024 - Sep 2024

*Beijing, China*

- Developed and deployed distributed web crawling and indexing pipelines using Python and C++ to support search and recommendation across 10M+ SKUs, aligning with performance engineering best practices and back-end infrastructure improvements.
- Built full-stack solutions with React and Flask that enhanced application performance, driving a 30% improvement in user engagement through advanced data visualizations and robust data processing logic.
- Reduced data processing latency by 40% by integrating Splunk and F5 Load Balancer APIs, and analyzing log data using Pandas and SQL Alchemy, reinforcing back-end resource management in distributed systems.

### Omega Up

*open source developer*

Mar 2025 - Present

*Remote*

- Redesigned the notification system to support delayed delivery and localization, improving user engagement by 12% while ensuring fault tolerance and CI test coverage in deployment environments.
- Contributed to a Python and Apache Beam ETL pipeline that enhanced test stability and reduced failure rates by 20%, underpinning high-performance back-end data processing.
- Modernized the developer environment using Docker Compose and improved hooks and documentation to support distributed team collaboration in a full-stack context.
- Updated the frontend with JavaScript and Vue to manage single and multi-file submissions, significantly reducing user friction while complementing robust back-end integrations.

## PROJECTS & OUTSIDE EXPERIENCE

### Cloud-Native ETL and Reporting System

Jan 2025 - Apr 2025

- Led the design and development of an end-to-end ETL pipeline using Spark for data ingestion and transformation from streaming and batch sources.
- Modeled relational and dimensional schemas in PostgreSQL, applying star schema, indexing, and partitioning techniques to improve query performance by 40%.
- Defined and deployed AWS infrastructure using Terraform, enabling auto-scaled EMR clusters and managed S3 bucket policies for secure and efficient data storage.
- Built GraphQL and REST interfaces to serve data dashboards and microservices, reducing frontend integration time by 25%.
- Practiced Scrum-based agile methodology, including sprint planning, daily stand-ups, and bi-weekly retrospectives.

## SKILLS

- **Languages & Frameworks:** C#, Python, Java, SQL, JavaScript, TypeScript, Bash, PowerShell, HTML/CSS, R, MATLAB, C++, Go
- **Full-Stack:** Node.js, Flask, Spring Boot, REST APIs, GraphQL, React.js, Next.js, iOS/Swift, Figma
- **Cloud Platform And Deploy:** AWS, Microsoft Azure, Docker
- **DevOps & Infrastructure:** Docker, Kubernetes, CI/CD (GitHub Actions, Jenkins), Vercel, AWS, Linux/Unix
- **Databases & Data Technologies:** Redis, Apache Kafka, Elasticsearch, Firebase, MongoDB, MySQL, PostgreSQL
- **System Design & Architecture:** Prometheus, Grafana, Microservices, SaaS / B2B Platforms
- **Testing & Troubleshooting:** Valgrind, Unit Testing, Cypress/Jest, CI/CD
- **Concepts:** Object-Oriented Design, Data Analysis, Data Structures & Algorithms