

ISABEL CHEN

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SUMMARY

Computer Science graduate with hands-on experience in backend development and cloud automation. Proficient in administering Linux systems, AWS, and Azure, with exposure to container orchestration using Kubernetes and infrastructure-as-code tools. Demonstrated ability to optimize high-availability systems and build scalable CI/CD pipelines. Eager to apply automation and operational skills to support secure, efficient software deployments.

EDUCATION

University of Michigan - Ann Arbor

Jun 2025

Bachelor of Science, Computer Science (GPA: 3.78)

- **Achievements:** Minor in Statistics

PROFESSIONAL EXPERIENCE

Springer Capiatal | *Full Stack Developer Intern*

Mar 2025 - Present

- Engineered and backtested multi-factor alpha strategies using Python within internal simulation frameworks, while leveraging Linux environments to optimize distributed algorithm design efficiency.
- Enhanced the backtesting engine's performance in high-frequency conditions using C++ and object-oriented design, achieving simulation throughput improvements of over 35%.
- Processed millions of rows of tick-level data with NumPy/Pandas and implemented scalable factor validation pipelines that reinforced efficient resource management in a cloud-based setup.
- Integrated real-time market feeds via REST/WebSocket APIs and optimized MongoDB pipelines for latency-sensitive analytics on Linux platforms, ensuring high availability and robust operational monitoring.

ByteDance | *Software Engineer intern*

Jun 2024 - Sep 2024

- Built and deployed distributed web crawling and indexing pipelines using Python and C++ that supported large-scale data processing and adhered to performance engineering best practices in a cloud environment.
- Developed full-stack solutions with React and Flask, significantly enhancing application performance and user engagement by 30%, while coordinating with cross-functional teams to integrate deployment workflows.
- Reduced data processing latency by 40% by integrating Splunk and F5 Load Balancer APIs, and analyzing log data using Pandas and SQL Alchemy, contributing to robust data pipelines and operational support.

Omega Up | *open source developer*

Mar 2025 - Present

- Redesignated the notification system to support delayed delivery and localization, improving user engagement by 12% and incorporating CI test coverage with an emphasis on fault-tolerant deployment practices.
- Contributed to a Python and Apache Beam ETL pipeline, enhancing test stability and reducing failure rates by 20%, thereby supporting efficient, automated data processing.
- Modernized the developer environment using Docker Compose, integrating container orchestration practices while refining hooks and documentation to support distributed team collaboration in an Agile setting.
- Updated the frontend with JavaScript and Vue to manage single and multi-file submissions, significantly reducing user friction and aligning with modern web application development practices.

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, Web Application Development
- **Cloud Platform And Deploy:** AWS, Microsoft Azure, Docker
- **DevOps & Infrastructure:** Docker, Kubernetes, CI/CD (GitHub Actions, Jenkins), Vercel, AWS, Linux/Unix, Infrastructure as Code, Container Orchestration, Puppet
- **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, Agile Environment
- **Education & Credentials:** Degree in Computer Science