# Isabel Chen

https://isabelccc.github.io/demo.io/

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## Experience

- **OmegaUp** Remote
  *Open-Source Contributor* *Mar 2025 – Present*
  - **Notification System Enhancements**: Redesigned the notification system to support delayed delivery and localization, boosting user engagement by 12% and integrating robust test coverage into CI workflows.
  - **Data and Testing Infrastructure**: Contributed to a new Python + Apache Beam ETL pipeline, reducing failures by 20%. Improved E2E test stability by handling async UI issues and strengthening CI reliability.
  - **Crowdsourcing Platform Improvements**: Built authoring/review modules for programming problems, added tagging and validation features, and enhanced contributor onboarding for users.
  - **Developer Environment Modernization**: Modernized local dev setup with Docker Compose, Makefile automation, improved documentation, and pre-commit hooks, cutting onboarding time.
  - **Data Management System**: Led full-stack implementation of a project tracker, including SQL schema design, backend APIs, and a Vue.js admin UI to manage contributors and project ideas.
- **Trilearn** Remote
  *Founder* *Jan 2025 – Present*
  LLM-powered Note-Taking and Summarization Web App: Flask, RESTful API, MongoDB, AWS, TCP Socket, C++
  - **LLM-Powered Summarization Engine**: Developed a RESTful backend with async document parsing (PDF, DOCX, MP4), user authentication, and LLM-based summarization; achieved 85% success rate under concurrent load.
  - **Searchable Knowledge Base**: Built a retrieval system using MongoDB and Express.js with custom indexing logic; cut query latency by 40% and improved top-result relevance by 22%.
  - **Scalable Infrastructure**: Deployed services on AWS EC2 with S3-backed storage and CloudWatch monitoring; maintained 99.9% uptime during stress testing and high-traffic simulations.
- **Temu** Beijing, China
  *Software Engineer Intern* *May 2024 – Sep 2024*
  - **Scalable Data Pipelines**: Designed and optimized large-scale web crawling and indexing pipelines powering real-time search and recommendation systems, reducing data latency by 28%.
  - **A/B Testing and Impact Analysis**: Implemented an A/B testing framework for homepage modules that increased click-through rate by 3.1% and session time by 6.4%, applying change management and strategies.
  - **Cross-Team System Optimization**: Collaborated with infrastructure and backend teams to troubleshoot, profile, and reduce response latency of critical services using logs, flamegraphs, and custom telemetry.
  - **Software Testing and Validation**: Developed end-to-end tests and service-level integration tests to ensure pipeline stability across 50M+ daily records, improving on-call resolution time by 25%.

## Projects

- **Search Engine System Design**: C++, Docker, Google Cloud Run, Python, MongoDB, HTML
  - Built a multithreaded web crawler with TCP/UDP networking, domain rate-limiting, and deduplication to parse 1M+ pages.
  - Implemented disk-based inverted index with delta encoding, reducing storage size by 60%.
  - Designed a custom Boolean query parser/executor supporting AND/OR/NOT/phrase queries with ¡5ms latency on 10K-doc corpus.

## Education

- **University Of Michigan** Ann Arbor, MI
  *Bachelor of Science in Computer Science;* *Dec. 2025(Graduation expected)*

## Programming Skills

- **Languages**: Scala, Python, Javascript, C++, SQL, Java, PHP
  **Technologies**: AWS, Play, React, Kafka, GCE
  **tools**:MongoDB, Github, Docker, Django