

# Ching Yao Lin

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## EDUCATION

### Rice University

Master of Computer Science (MCS)

Houston, TX

December 2025

### Feng Chia University

Bachelor of Information Engineering & Computer Science

Taichung, Taiwan

June 2024

## WORK EXPERIENCE

### Paycom Software

Software Development Intern | React, TypeScript, Next.js, Docker, AWS Amplify

Irving, TX

May 2025 – August 2025

- Designed and implemented an **IDE-style internal prototyping platform** in a cross-functional Agile environment, embedding a Monaco editor to enable real-time rendering and **accelerate feature iteration**.
- Owned end-to-end delivery of a drag-and-drop **UI Playroom**, optimizing render performance with **Redux Toolkit**, reducing load latency by **45%** and improving system scalability throughout the software development life cycle (**SDLC**).
- Containerized** the application with **Docker** and built **CI/CD** pipelines on **AWS Amplify**, reducing release failures by **80%** and improving **production reliability**.

### SXB Liberal Arts & Science Tutoring Center

Software Engineer Intern | Python, SQL, Vue.js, HTML/CSS, JavaScript

Yunlin, Taiwan

May 2024 – August 2024

- Delivered and deployed a **production-grade** billing and reconciliation system backed by **MySQL** that automated invoice generation and payment tracking, reducing operating expenses by **15%**.
- Implemented **backend** authentication using **OAuth 2.0 / OpenID Connect (OIDC)** with **JWT**-based session management and **structured logging**, strengthening production security and auditability.
- Shipped full-stack internal tools with **Vue.js** and **RESTful APIs**, architecting normalized relational schemas and leading **Python**-based ETL migrations to modernize legacy data and strengthen production data integrity.

## PROJECTS

### iOS Poker Session Analytics & Social Platform

- Developed an **iOS application in Swift** with an **MVVM architecture** that combines poker session tracking and social interaction, supporting hand history logging and interactive analytics across complex UI workflows.
- Implemented a secure **RS256-based JWT authentication architecture** with refresh token rotation and replay protection, exposing JWKS for key distribution and integrating **OAuth 2.0 PKCE** with Apple and Google ID token verification.
- Architected a **serverless backend on AWS Lambda and API Gateway** using **DynamoDB**, designing GSIs, conditional writes, and TTL-based lifecycle management, deployed through AWS SAM with GitHub CI/CD and OIDC-based role assumption.

### AI-Driven Travel Recommendation Platform

- Integrated the **ChatGPT API** using **retrieval-augmented generation (RAG)**, building a **context-aware recommendation pipeline** with keyword-based retrieval and distance-aware itinerary optimization.
- Developed modular **Python** services for data ingestion and preprocessing, implementing a **constraint-aware itinerary matching engine** that optimized travel flow across time constraints, distance, and user preferences.
- Architected a normalized relational data model in **SQL** and integrated **geospatial computation** through the **Google Maps API** to enrich context construction for **AI-driven itinerary generation**.

### Cardz Social Media

- Engineered a **RESTful backend architecture** using Node.js/Express for authentication and content workflows, introducing layered request validation and **middleware-driven access control**.
- Developed a **component-driven React frontend** with **normalized state management**, supporting real-time interaction flows, optimistic updates, and efficient rendering under concurrent user activity.
- Established **Jest-based automated testing** for core user flows and implemented **abuse-mitigation mechanisms** including request throttling, input sanitization, and threshold-based suspicious activity detection.

## TECHNICAL SKILLS

**Programming Languages:** TypeScript, JavaScript (ES6+), Python, Java, SQL, HTML5/CSS3, Swift, C, C++

**Frameworks & Libraries:** React, Next.js, Three.js, Redux Toolkit, **Node.js**, Express, Spring Boot, Vue.js, Angular, SwiftUI, Bootstrap, Tailwind CSS, Monaco Editor

**Testing & Databases:** Jest, Vitest, React Testing Library, **MongoDB**, MySQL, PostgreSQL, DynamoDB

**Developer Tools:** Docker, CI/CD, Git, Github, Unix/Linux, Postman, Jira, **RESTful APIs**, AWS, GCP

## PROFESSIONAL SUMMARY

MCS graduate from Rice University with internship experience delivering **scalable web and mobile applications** in **cloud environments**. Strong foundation in **object-oriented design** and **backend architecture**, with hands-on experience building **Swift-based iOS applications**, **React frontends**, **Node.js services**, and **AWS serverless systems**. Proven ability to design and implement **end-to-end architectures** with **secure authentication**, **efficient data modeling**, and **automated deployment pipelines**.