Ching Yao Lin

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EDUCATION

Rice University	**Houston, TX**
Master of Computer Science (MCS)	*December 2025*
Feng Chia University	**Taichung, Taiwan**
Bachelor of Information Engineering & Computer Science	*June 2024*

WORK EXPERIENCE

Paycom — **Irving, TX**
Software Development Intern | React, TypeScript, Next.js, Docker, AWS Amplify — *May 2025 – August 2025*

- **Owned end-to-end** delivery of an internal drag-and-drop **UI Playroom** to accelerate design/engineering prototyping and cross-functional reviews; applied **Redux Toolkit**-based state normalization with lazy loading and render-path **performance** tuning, reducing initial load time by **45%** and improving **scalability**.
- **Containerized** the app with **Docker** and implemented **CI/CD** on **AWS Amplify** (build/test gates, preview deployments), cutting release errors by **80%** and enabling safe **live deployments**, quick rollbacks, and fast **triage of post-deploy issues**.
- Collaborated with **engineers, UI/UX designers, and product managers** to scope requirements from workflow friction; implemented UI changes and validated **UX**, **accessibility**, and **cross-browser** behavior in production workflows.
- Built a split-panel workspace (component list, central canvas, **Monaco**-powered editor) with instant re-render and efficient **state management** to speed iteration and improve **developer experience** for internal stakeholders.

SXB Liberal Arts & Science Tutoring Center — **Yunlin, Taiwan**
Software Engineer Intern | Python, SQL, Vue.js, HTML/CSS, JavaScript — *May 2024 – August 2024*

- Delivered an in-house billing and reconciliation system backed by a **MySQL** relational database management system (**RDBMS**) that automated invoice generation and payment tracking; eliminated manual processes and reduced operating expenses by **15%**.
- Implemented staff-portal authentication using standards-based **OAuth 2.0**/**OpenID Connect** with **JWT** (ID tokens); verified token signatures and standard claims (`iss`/`aud`/`exp`), enforced secure **cookie** settings (HttpOnly, Secure, SameSite), and added **structured logging** for auth events to improve production **auditability** and session **security**.
- Built **responsive Vue.js** views with reusable components and input validation; **designed and implemented RESTful API endpoints** with parameterized **SQL** queries to power dashboards and internal tools in production.
- Migrated legacy records into a normalized schema; designed tables, indexes, and constraints and executed **extract, transform, and load (ETL)** workflows in **Python** using sets/maps to improve data quality and auditability.

PROJECTS

Cardz Social Media
Tech: React, JavaScript, HTML/CSS, MongoDB, Node.js

- Implemented a Node.js/Express **RESTful API** for authentication and posts with clear contracts, validation, and robust error handling; tuned **MongoDB** schemas and indexes and deployed to cloud hosting to ship features quickly and safely.
- Built a **responsive**, component-based **React** UI with full CRUD and real-time interactions while maintaining **cross-browser** compatibility and performance budgets; designed scalable endpoints to be **service oriented** and easy to extend.
- Strengthened **quality** by adding **Jest**-based unit and functional tests for core flows (post CRUD, like/comment) and basic **fraud/abuse prevention** (rate limiting, input sanitization, anomaly flags) with a lightweight **moderation** path.

Intelligent Travel Consultant and Smart Planning
Tech: Vue.js, Python, SQL, HTML/CSS, JavaScript

- Integrated the **ChatGPT API** and other third-party data sources using **retrieval-augmented generation (RAG)** to deliver personalized recommendations; handled **API integration** details including pagination, retries, and error handling.
- Built modular **Python** services for ingestion/cleaning (set/map de-duplication, batched I/O) and implemented retrieval/ranking plus itinerary **matching heuristics** aligned to time windows and categories.
- Modeled a normalized relational schema in **SQL** (indexes, foreign keys) and embedded the **Google Maps API** for interactive mapping and automated distance calculations; generated itinerary suggestions by analyzing relative distances between attractions.

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

PROFESSIONAL SUMMARY

MCS graduate from Rice (Dec 2025) with internship experience delivering **scalable**, **high-performance** web applications and **RESTful APIs** in **cloud** environments. Strengths in **object-oriented design**, **algorithms and data structures**, and **SQL**/databases with **test automation** (**unit** and **functional** tests). At Paycom, led a React/TypeScript prototyping platform, cutting initial load by **45%** and release errors by **80%** via **Docker** and **CI/CD**. At SXB, shipped a MySQL-backed billing system with normalized schemas and Python **ETL** using parameterized **SQL**; implemented staff-portal auth with **OAuth 2.0**/**OpenID Connect** and **JWT**. Collaborates with engineering, PM, and UX to **architect, design, implement, test, and deliver** features with quality.