Gene 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**.
- Partnered with **internal stakeholders** (software engineers, UI/UX designers, product managers) to turn workflow friction and review needs into scoped technical requirements; validated **user experience**, **web accessibility**, and **cross-browser** behavior (Chromium/WebKit/Gecko) to reduce defects.
- 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.
- **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** and quick rollbacks.
- Improved **operability** by adding runbooks, structured **logging**, and basic health checks; used **Git** for version control and **code reviews**, and wrote **unit tests** for core flows to protect against regressions.

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%**.
- 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.
- 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 environments**.

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, robust error handling, and **structured logging**; 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 target performance budgets; designed scalable endpoints to be **service oriented** and easy to extend.
- Strengthened **quality** by adding **Jest**-based 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** with retrieval and keyword extraction to deliver personalized recommendations using a **retrieval-augmented generation (RAG)** and saved destinations; analyzed AI-driven insights to improve relevance.
- 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 candidate at Rice (Dec 2025) with two software engineering internships delivering **reliable**, **scalable** web applications and **RESTful APIs**. Background in **object-oriented programming** (Python/Java), **algorithms and data structures**, **SQL**/databases, and **unit testing**. At Paycom, led a React/TypeScript prototyping platform that improved initial load by **45%** and reduced release errors by **80%** via **Docker** and **CI/CD** with **continuous integration**; added logging, health checks, and runbooks to improve **operability** and **stability**. At SXB, built an in-house MySQL-backed billing system, designed normalized schemas, and shipped **ETL** workflows in Python; added basic **systems monitoring** (logs/metrics). Learns fast under mentorship, takes feedback well, and collaborates across functions to ship reliable features.