

Résumé

Jacob Lin (JHEN-KE LIN)

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Jacob is an aspiring computer science and information engineering student with a robust foundation in programming. He is passionate about integrating cutting-edge technology into everyday life. He is seeking opportunities to apply his skills in AI, UI/UX design, and system development in a dynamic environment.

He is based in Taipei and is currently studying for a bachelor's degree at National Taiwan Normal University, majoring in computer science and information engineering [1].

Over the past year, Jacob has taken on development and management roles in various teams and projects. His involvements include UniCourse [2], Cool English [3], NTNU CSIE Camp [4]. As a teaching assistant for the CSU0001 computer programming course, he has developed an AI-integrated email support system [5] and a command-line tool for scoring automation [6]. Currently, he is a core team member of the Google Developer Student Club at NTNU and actively participates as a speaker in study groups [7].

Jacob is also highly active in pursuing side projects and experiments, encompassing a variety of open-source libraries ([8], [9]), web services ([10], [11]), and CLI tools ([12], [13]). His curiosity drives him to constantly explore and incorporate the latest technologies in these endeavors. Some of his projects also integrate cutting-edge trends like GPT [14], showcasing his commitment to staying at the forefront of technological advancements. This pursuit not only fuels his passion but also keeps his skills sharp and relevant in the ever-evolving tech landscape.

In the academic sphere, he is starting his research on speech synthesis, language learning assistance, and is involved in a cross-disciplinary project working on ballistocardiogram artifact suppression [15].

Contact

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Education

- (2021.09 ~ expected 2025.05) BS, Computer Science and Information Engineering, National Taiwan Normal University

Skills

- **Programming Language and Tooling:**
 - **System Development:** Rust, Go, C
 - **Web UI-Logic Framework:** Svelte, Vue, React
 - **Web Styling Framework:** TailwindCSS (e.g., DaisyUI), Bootstrap
 - **Server Backend:** TypeScript (e.g., SvelteKit)
 - **Machine Learning:** Python (e.g., Torch)
 - **Desktop Application Framework:** TypeScript (e.g., Electron), Rust (e.g., Tauri)
 - **General-Purpose Scripting:** JavaScript (e.g., Node), Python, Shell Script
- **Data Storage Solution:**
 - **Relational:** PostgreSQL, Cloudflare D1, SQLite
 - **NoSQL:** MongoDB, Firebase Firestore
 - **Graph:** Neo4j
 - **Vector:** Pinecone, Qdrant, Cloudflare Vectorize

- **Key-Value:** Redis, Cloudflare KV
- **Object Storage:** Cloudflare R2 (S3 compatible)
- **Containerization:**
 - **Tooling:** Docker (building and managing OCI images and containers)
 - **Orchestration:** Docker Compose (managing containerized applications)
- **DevOps:**
 - **CI/CD Pipelines:** GitHub Actions, GitLab CI.
- **Cloud Computing:**
 - **Serverless Functions:** Cloudflare Workers (Pages, for full-stack scenario), Google Cloud Functions, Deta (AWS lambda under the hood)

Experiences

Cool English (2023~)

Dept. of English at NTNU and Taiwan's Ministry of Education; Prof. Howard Hao-Jan Chen [16]

- **Role:** Front-end Developer
- Designed and developed an advanced online rich text editor tailored for Speech Synthesis Markup Language (SSML), enabling educators to craft voice materials utilizing cutting-edge technology. [3]

Computer Programming Course, NTNU CSU0001 (2023~)

Dept. of Computer Science and Information Engineering at NTNU; A.P. Po-Wen Chi [17]

- **Role:** Teaching Assistant
- Helped students to address the root cause of their problems in C/linux programming, and guided them to solve the problems step-by-step.
- Innovated an AI-integrated support system to automate and streamline email responses, significantly improving administrative efficiency. [9], [5]
- Created a tool for securely compiling, executing, and auto-grading complex student assignments. [6], [18]

Google Developer Student Club, NTNU (2023~)

Student Club [7]

- **Role:** Core Team Member and Lecture Speaker
- Organized and led regular study groups, contributing to knowledge sharing and community engagement in the field of technology.

Ballistocardiogram Artifact Suppression Project (2023~)

NTUST and university of toronto; Prof. Teng-Yi Huang and Prof. Fa-Hsuan Lin

- **Role:** Student Researcher
- Collaborated in developing machine learning-based solutions for enhancing ballistocardiogram suppression, facilitating improved fMRI-EEG experiment data quality. [15]

UniCourse (2022~2023)

Community Project [2]

- **Role:** Tech Team Lead and Full-stack Developer
- Directed critical technology stack decisions and spearheaded system design initiatives.
- Played a pivotal role in the development of the main codebase in each iteration.
- Won the g0v competition in 2022. [19]
- Co-hosted the open-education track at COSCUP 2023. [20]

NTNU CSIE Camp (2022, 2023)

CSIE Student Assoc. at NTNU

- **Role:** Supervisor, Department of Teaching and Development

- Developed and maintained the pre-registration website and application platforms for the camp to provide our customers with a transparent registration process. [21], [4]
- Ensured the high quality of lectures and educational content for high school students in the 5-day camp.

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