

KEVIN CHEN (YI-CHIA CHEN)

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EDUCATION

Georgia Institute of Technology

Master of Science in Computer Science | GPA 3.5

Aug 2021 – May 2023

Atlanta, GA

National Cheng Kung University

Bachelor of Science in Computer Science | GPA 3.5

Sep 2015 – Jun 2020

Tainan, Taiwan

Courses: Machine Learning, Digital System(FPGA), Computer Architecture(Verilog), Info Security(GDB), Programming Language

EXPERIENCE

AeroTract, LLC

Software Engineer Intern

Sep 2023 – Jan 2024

Albany, OR

- Led the software development of a web app from scratch, streamlining the process of tuning machine learning configurations by creating frontend UI using **TypeScript** and **React**. Resulting in an annual time savings of 300+ hours for engineers.
- Designed and built **REST APIs** and SDKs on the backend using **Python Flask**, ensuring seamless integration with React client.
- Diagnosed and resolved persistent frontend challenges of an internal dashboard using **React**, **Bootstrap** and **JavaScript**.

Georgia Institute of Technology

Graduate Research Assistant

Aug 2022 – Dec 2022

Atlanta, GA

- Achieved SPMD parallel execution using **C++** parallel computing model **HClib**, **OpenSHMEM** and **MPI**, reducing runtime by over 50%. Studied the concurrency model **Actor model** for distributed asynchronous computations.
- Researched and built HClib-Actor programs using **C++**, then documented the semantics of the synchronization primitives.

Academia Sinica

Research Intern

Jul 2020 – Dec 2020

Taipei, Taiwan

- Constructed context-free parser using Brzozowski's derivative and **functional programming** with **Haskell**.
- Programmed a course website for the instructor to deliver materials to 100+ undergrads with **Haskell**.
- Performed formal verification using type systems with interactive proof assistant **Agda**.

PIXNET Digital Media Corporation

Data Analyst Intern

Aug 2019 – Dec 2019

Taipei, Taiwan

- Created dashboards to uncover marketing insights with **BigQuery**, **Data Studio**, **Python**, **R**, and **D3.js**.
- Automated the data import process from Google Sheets to **BigQuery** using **Matillion ETL** and **Python**.
- Proposed new website layouts to improve user experience and ad revenue by analyzing clickthrough rate.

PROJECTS

“Words” – Flashcard Maker | Spring Boot, JUnit, Object-Oriented Programming, iOS Development

Sep 2023 – Oct 2023

- Created a **Java Spring Boot** backend following OOP principles, including developing **REST APIs** to service iOS and web client, and using **JPA** and **Hibernate** to query data from **Postgres**.
- Engineered a secure login service, authentication and authorization using **Bcrypt**, **JWT** and Spring Security Filter.
- Designed a native iOS app that turns word definitions into flashcards using **Swift**, **SwiftUI** and **MVVM** architecture.

“Mini Reddit” – Content Rating System | Node.js, Next.js, React, GraphQL, Server-Side Rendering

May 2023 – Jun 2023

- Developed a **Node.js Express** server with **Apollo GraphQL** middleware using **TypeScript**, backed by **Redis** and **Postgres**.
- Built a server-side rendered **React** web client in **Next.js** and **TypeScript**, and used **cookies** to keep a user logged in.

“Simple Bank” – Banking Service System | Golang, AWS, gRPC, Microservices

Apr 2023 – May 2023

- Built a CI/CD pipeline using **GitHub Actions** to run automated unit tests written in **Golang**, create **Docker** image on **AWS ECR**, deploy the service to **Kubernetes** clusters on **AWS EKS**, and establish a production database on **AWS RDS**.
- Launched **Golang Gin** backend with **REST APIs** and backed by **Postgres**, and used **PASETO** for authentication.
- Augmented the **Golang** backend with **gRPC** and **gRPC Gateway** using **Protocol Buffers**.

“I Love Mining” – A Puzzle Solver | C++, Multi-Threaded Programming

Mar 2022 – Apr 2022

- Implemented ABI encoding of 256-bit unsigned integers using **Boost** and performed coin mining on an Ethereum smart contract using **C++ multi-threading**.

“THE ONE” – Book Recommendation System | Machine Learning, NLP, Django, D3.js

Oct 2021 – Dec 2021

- Led a team of 6 to develop a book recommender system by creating NLP models using **Python**, **sklearn**, **pandas** and **NLTK**.
- Launched a website that gets responses from **Python Django** backend through **AJAX** requests using **jQuery** and **JavaScript**.
- Designed frontend with interactive visualization using **D3.js**, **JavaScript**, **HTML5** and **CSS3** to display popular books.

SKILLS AND CERTIFICATIONS

Languages: C++, C, Python, Go, Verilog, Java, JavaScript, TypeScript, Bash, Perl

Technologies: Linux, MPI, OpenSHMEM, OpenMP, CMake, Boost, Docker, Kubernetes, Git, GitHub Actions, Jenkins

Full-stack: Gin, Django, Flask, Spring Boot, Hibernate, Node.js, Express, React, Next.js, REST API, GraphQL, gRPC

Cloud/DB: AWS Certified Solutions Architect Associate (EC2, RDS, EKS), Postgres, MySQL, MongoDB, Redis