

# 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

## 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**.

## PROJECTS

### “Word Cards” – Flashcard Maker | Spring Boot, REST APIs, React, Redux, Swift

- 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.
- Developed an online flashcard maker using **React Redux** in **Next.js** and **TypeScript**.
- Designed a native iOS app that turns word definitions into flashcards using **Swift**, **SwiftUI** and MVVM architecture.

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

- Developed an **Apollo GraphQL** server with **Node.js Express** middleware using **TypeScript**, with **Redis** for session caching and **Postgres** for relational data. Implemented the GraphQL schema and resolvers using **TypeGraphQL** and **TypeORM**.
- 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, gRPC, AWS, Kubernetes, Docker, Microservices

- 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.
- Migrated the REST APIs to **gRPC** and gRPC Gateway using **Protocol Buffers**.

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

- 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**.


### “Finance Hero” – A Simple Budgeting App | C#, .NET Application, Object-Oriented Programming

- Led a team of 2 to build and design the app with a minigame inside using **C#** following OOP principles.
- Integrated the app with **Microsoft SQL Server** database to store user spending and game records.
- Visualized a user's monthly spending by category in pie chart with **ASP.NET** Chart control.

## SKILLS AND CERTIFICATIONS

**Languages:** Java, JavaScript, TypeScript, Python, Go, C#, C++, Swift, SQL

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

**Cloud/DB:**  AWS (EC2, RDS, EKS, DynamoDB), Postgres, MS SQL Server, MongoDB, Redis

**Technologies:** Docker, Kubernetes, JUnit, GitHub Actions, Jenkins