KEVIN CHEN (YI-CHIA CHEN)

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EDUCATION

Georgia Institute of Technology *Aug 2021 – May 2023*
Master of Science in Computer Science | GPA 3.5 *Atlanta, GA*
National Cheng Kung University *Sep 2015 – Jun 2020*
Bachelor of Science in Computer Science | GPA 3.5 *Tainan, Taiwan*
Courses: Machine Learning, Data Analytics, Blockchain, Network (TCP/IP), Info Security (TLS), Data Structure, Algorithm

EXPERIENCE

AeroTract, LLC *Sep 2023 – Present*
Software Engineer Intern *Albany, OR*
- Developed a web app from scratch, saving engineers 300+ hours yearly by designing UIs for fine-tuning machine learning configurations using **TypeScript** and **React**. Implemented **REST APIs** and SDKs using **Python Flask**.
- Debugged and fixed long-existing frontend issues of an internal dashboard using **React** and Bootstrap.

Georgia Institute of Technology *Aug 2022 – Dec 2022*
Graduate Research Assistant *Atlanta, GA*
- Achieved SPMD parallel execution using **C++** parallel computing model **HClib**, **OpenSHMEM** and **MPI**, reducing runtime by over 50%. Researched the concurrency model **Actor model** for distributed asynchronous computations.
- Conducted experiments on HClib-Actor programs and documented the behaviors of their parallel primitives.

Academia Sinica *Jul 2020 – Dec 2020*
Research Intern *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 *Aug 2019 – Dec 2019*
Data Analyst Intern *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 🎧 🎧 | *iOS Development, Spring Boot, JUnit, Object-Oriented Programming* *Sep 2023 – Oct 2023*
- Designed native iOS app that turns word definitions into flashcards using **Swift**, **SwiftUI** and **MVVM** architecture.
- 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.

"Mini Reddit" – Content Rating System 🎧 🎧 | *Next.js, React, GraphQL, Server-Side Rendering* *May 2023 – Jun 2023*
- Developed a **Node Express** server with **Apollo GraphQL** middleware using **TypeScript**, backed by **Redis** and **Postgres**.
- Implemented the **GraphQL** schema and resolvers using **TypeGraphQL** and **TypeScript**.
- Built a server-side rendered **React** web client in **Next.js** and **TypeScript**.

"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**.

"THE ONE" – Book Recommendation System 🎧 | *Machine Learning, NLP, Python, D3.js* *Oct 2021 – Dec 2021*
- Developed a book recommender system by creating NLP models using **Python**, **sklearn**, **pandas** and **NLTK**.
- Launched a website that gets responses from **Python Flask** backend through **AJAX** requests using **jQuery** and **JavaScript**.
- Designed frontend with interactive visualization using **D3.js** and **JavaScript** to display popular books.

Air Quality Data Collection, Analysis, and Prediction 🎧 🎧 | *Data Analysis, Machine Learning* *May 2019 – Sep 2019*
- Presented PM 2.5 forecasts with deviation $< 28\%$ by training machine learning models, including regression and time series analysis, with **Python** and **sklearn**. Won 3rd Place in *2019 CSIE Department Research Project Competition*.

SKILLS

Languages: Go, Python, C++, C, C#, Swift, Java, JavaScript, TypeScript
Fullstack: Gin, Flask, Spring Boot, Hibernate, SwiftUI, Node, Express, React, Next.js, REST API, GraphQL, gRPC
DevOps: Docker, Kubernetes, Postman, GitHub Actions CI, JUnit, Linux
Cloud/DB: Postgres, MySQL, MongoDB, Redis, AWS (EC2, RDS, EKS) (AWS Certified Solutions Architect Associate)