Hao-Yi (Karen) Tu

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Professional Experience

ByteDance Inc.   San Jose, CA
Full-Stack Software Engineer   *Sep 2023 – Present*
- Enhanced a project management workspace service for 50+ users across 2 regions, implementing advanced task tracking, workflow automation, and real-time collaboration using **Go Kitex**, **TypeScript**, **React**, and **GraphQL**, enabling 10+ cross-regional collaborative workflows.
- Engineered and enhanced microservice backed intenal tool for threat intelligence by using **Python**, **FaaS**, **Node.js**, **GraphQL**, and **RPC** facilitating collaboration with cross-functional teams.
- Resolved cross-region downtime incidents, increasing platform reliability and global accessibility.
- Reviewed code from both junior and senior developers for frontend tasks, providing technical feedback and ensuring code quality, resulting in over 90% defects were identified and resolved before reaching production.

Johnson Controls Inc.   Campbell, CA
Software Engineering Intern   *June 2022 – August 2022*
- Designed and developed app store web application for smart home products using **TypeScript**, **React**, **Express.js** and **PostgresSQL** to facilitate 5 dealers and internal teams to distribute the android applications on end-user panels.
- Designed and built 10 APIs served version management, file validation, and upload with a team of 4 engineers using **Git** and conducted code reviews under **Feature Branch Workflow**.
- Enhanced codebase maintainability by implementing and optimizing back-end features and REST APIs using object-relational-mapper (**ORM**) and **JSON schema validator** designs with Sequelize and Ajv.
- Assisted and containerized client, API, login and database services with Docker to improve team development efficiency.

Trend Micro Inc.   Taipei, Taiwan
Sr. Software Engineer   *June 2019 – August 2021*
- Helped 7,000+ business customers activate and track the usage of their solutions by developing the Activation Service and credit-based licensing service on Trend Micro's large-scaled application using **React** and **Redux**.
- Migrated multi-page to single-page application boosting activation success rate by 120% in 4 months.
- Led the design and implement internal User Behavior Report dashboard which enabled executives and analytics teams to make data-driven decisions on licensing business and saved the manual time of work over 60%.
- Designed and implemented a platform with features of data visualization and role-based access control (**RBAC**) advancing EU and NABU teams channel business to target on 3.49 times higher potential revenue growth customers.
- Reduced the time of first contentful paint by 50% through paging loading and cache.
- Ensured up to 100% coverage for new modules by completing unit tests in **Jest** and **React Testing Library**.
- Won 2nd place among 90 teams and 1,500 employees in an internal Customer Success and **DevOps** contest.
- Won 1st place among 20 teams in the Information System (IS) DevOps Camp.

Skills

Programming Languages: WebDev Languages (HTML, CSS, JavaScript, JQuery), Typescript
Frameworks and Tools: React, Redux, RESTful API, RPC, Node.js, Express, Docker, Unit Testing (Jest), SQL, GraphQL, MongoDB, PostgreSQL, ESLint, Storybook, Git

Education

Carnegie Mellon University   Mountain View, CA
Master of Science in Software Engineering   *January 2022 – May 2023*
- Selected Coursework: Software Design and Architecture, Browser Security

New York University, Tandon School of Engineering   Brooklyn, NY
Preparatory Course for Graduate Studies in Computing (NYU Tandon Bridge)   *January 2021 – July 2021*
National Taiwan Normal University   Taipei, Taiwan
Bachelor of Arts, History   *September 2012 – January 2017*

Projects

Full Stack Engineer, Emergency Social Network – Web Application Project   *January 2022 – May 2022*
- Architected a scalable web application for emergency medical assistance, with features of login, permission management, forum, chat, searching, performance measurement, and data visualization using **Express.js**, **Mongoose**, and **Heroku**.
- Wrote **unit** and **integration tests** using Jest and Axios and achieved 96% test code coverage.
- Improved the quality score by 40% by incorporating a **static analysis** tool in development to ensure code quality.
- Awarded 5 out of 10 badges among 10 teams, including Best Code Quality, Great UI, Great Collaboration, Best REST API Documentation, and Use of Design Patterns from 40 students.