

# James Tang

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## Profile

Software engineer with 10 years of hands-on experience in developing, evaluating, and refining high-quality code and scalable systems. Holds a **Bachelor's Degree in Computer Science** and specializes in **Python**, **JavaScript**, and AI-based systems optimization.

## Skills

**Python**, **JavaScript**, **TypeScript**, **C++**, **C#**, **Go**, **Kotlin**, **Swift**, **Java**, **SQL**, **HTML5**, **CSS3**, **React**, **Next.js**, **Node.js**, **Flask**, **FastAPI**, **Express.js**, **Django**, **PostgreSQL**, **MySQL**, **MongoDB**, **Redis**, **AWS Lambda**, **Azure Functions**, **Docker**, **Kubernetes**, **Git**, **REST APIs**, **GraphQL**, **Vite**, **Webpack**, **Jest**, **PyTest**, **Playwright**, **CI/CD**, **OAuth2**, **OpenAPI**, **WebSockets**, **LeetCode**, **HackerRank**, **VSCode**, **LLMs**

## Experience

### SELF-EMPLOYED FULLSTACK CONSULTANT | BIRGHTWAVE | JULY 2024 – PRESENT

- Led architecture and delivery of end-to-end AI-enhanced platforms using **Python**, **JavaScript**, and **TypeScript**, specializing in **code evaluation** and **explainability** for chatbot training systems.
- Expertly designed and implemented a robust evaluation suite to test LLM-generated code with **unit tests**, **benchmarking tools**, and **edge case detection** using **Python** and **Jest**.
- Built scalable full-stack applications using **React**, **Next.js**, **Node.js**, and **PostgreSQL**, integrating **LLM APIs (OpenAI, Anthropic)** to automate code generation and verification workflows.
- Developed internal code quality metrics platform using **Python** and **SQL** to assess AI-generated code based on performance, maintainability, and correctness.
- Engineered a real-time dashboard with **React**, **Tailwind CSS**, and **Socket.IO** to visualize AI output against gold standard code solutions.
- Integrated custom plugin-based interpreter to test **JavaScript** and **Python** snippets safely in isolated **Docker** environments.
- Created over 200 coding challenges (LeetCode-style) and grading rubrics to train LLMs, leveraging **prompt engineering**, **ChatGPT fine-tuning**, and **synthetic data generation**.
- Designed an evaluation engine using **TypeScript** and **AST parsing** to check for code anti-patterns, time complexity, and semantic correctness.
- Built DevOps CI/CD pipelines using **GitHub Actions**, **Docker**, and **AWS CodeBuild** to auto-deploy AI-code validation services.
- Consulted startups in building AI-integrated coding education platforms using **Next.js**, **NestJS**, and **GraphQL**.
- Mentored junior devs on effective debugging and testing strategies in **Python** and **JavaScript**, improving team code quality by 30%.
- Designed modular component libraries with **Storybook** and **React**, boosting code reuse across AI tool interfaces.
- Developed secure OAuth login flows and user management features using **Firebase**, **Auth0**, and **JWT**.
- Led the creation of chatbot prompt templates that improved AI coding success rate by 42%, leveraging **prompt tuning** and **natural language heuristics**.

- Built code playback features for AI sessions using **Redux**, **React DnD**, and **WebSockets**, enabling step-by-step code review experiences.
- Devised input validation layer for frontends using **Zod**, **Yup**, and **custom regex** to prevent invalid test case injection.
- Integrated logging and error-tracing across all backend services using **Sentry**, **Elastic APM**, and **Datadog**.
- Developed browser-based sandboxed IDEs using **Monaco Editor**, **WebAssembly**, and **Ace.js** for real-time code testing.
- Built GraphQL APIs and REST endpoints for AI feedback loops using **Apollo Server**, **Express**, and **PostgreSQL**.
- Constantly refined AI-human feedback workflows, resulting in a 25% increase in LLM task completion accuracy for code-related prompts.

### **PM & LEAD SOFTWARE ENGINEER | PROJECTAI | MARCH 2021 – JULY 2024**

- Designed and led the build of an AI-powered project management tool using **React**, **Django**, and **PostgreSQL**.
- Integrated LLMs with task creation and roadmap prediction using **Python**, **LangChain**, and **OpenAI APIs**.
- Directed architecture decisions for **microservices** powered by **Docker**, **FastAPI**, and **Redis**.
- Owned technical roadmap, code review process, and team delivery metrics across multiple squads.
- Developed interactive dashboards with **Next.js**, **GraphQL**, and **Chart.js** for real-time insights.
- Built a custom DSL parser in **Python** to translate natural language project requirements.
- Collaborated with product and research teams to convert user feedback into structured AI tasks.
- Enhanced backend logic for milestone prediction engine using **scikit-learn** and **PyTorch**.
- Refined coding problem libraries and training datasets in **SQL** and **YAML**.
- Designed integration hooks with **Jira**, **Slack**, and **Notion** using **OAuth2**.
- Oversaw CI/CD pipelines using **GitHub Actions**, **CircleCI**, and **AWS Fargate**.
- Led internal training on evaluating AI-driven engineering assistants.
- Introduced performance benchmarks for code snippets and embeddings.
- Conducted LLM prompt testing to identify output flaws in multilingual contexts.
- Advocated for documentation standards using **Markdown**, **Swagger**, and **Postman**.

### **SOFTWARE FRONTEND ENGINEER | ECOTRAK FACILITY MANAGEMENT SOFTWARE | AUG 2019 – FEB 2021**

- Rewrote legacy dashboards using **React**, **Redux**, and **Material UI**, boosting performance by 63%.
- Integrated **REST APIs** with service scheduling UI using **Axios**, **JavaScript**, and **GraphQL**.
- Built drag-and-drop calendar in **HTML5**, **CSS3**, and **TypeScript**.
- Led frontend test coverage efforts using **Jest** and **Cypress**.
- Developed field technician mobile interface using **React Native**.
- Automated form validation and submission flows using **Formik**, **Yup**, and **Redux Saga**.
- Created component library with **Storybook**, enhancing reuse across teams.
- Collaborated with backend team using **Swagger Docs** and **PostgreSQL** schema previews.
- Refactored route system using **React Router v5** and dynamic imports.
- Implemented dark mode and a11y compliance updates sitewide.

## **SOFTWARE ENGINEER | ALLBIRDS | MAY 2017 – AUGUST 2019**

- Built e-commerce components in **JavaScript**, **Vue.js**, and **SCSS** for global rollouts.
- Integrated **Stripe**, **Shopify**, and **Salesforce APIs** with Node-based services.
- Developed internal inventory viewer using **Vuex**, **TypeScript**, and **Socket.IO**.
- Wrote backend functions in **Node.js** for inventory sync and fraud detection.
- Migrated legacy systems to **GraphQL** API endpoints for mobile apps.
- Created batch scripts in **Python** to reconcile SKU anomalies.
- Optimized image delivery using **Cloudinary** and **Webpack** lazy loading.
- Supported A/B testing framework using **LaunchDarkly** and **Segment**.
- Wrote Jest-based unit tests covering edge cases.
- Conducted weekly code reviews and mentored interns on API best practices.

## **JUNIOR DEVELOPER | WEEDMAPS | MARCH 2015 – MAY 2017**

- Fixed frontend bugs in **JavaScript** and **jQuery** across map-based search UI.
- Assisted with **MySQL** query optimization for dealer listings.
- Wrote CSS overrides and media queries for responsive improvements.
- Contributed to Node backend for location search suggestions.
- Created QA testing scripts in **Mocha** for form validations.

## **Education**

**B.S. IN COMPUTER SCIENCE | JULY 2017 | HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY**