Chi leong (Eddie) Tai

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SUMMARY

Resourceful Senior Full-Stack and Backend Software Engineer with 7+ years of experience designing, scaling, and operating high-throughput communication systems, event-driven microservices, and AI-powered web applications across **Python (FastAPI, SQLAlchemy, AsyncIO)**, **TypeScript (React.js, Next.js)**, and **Java (Spring Boot)**. Strong production ownership across real-time voice/SMS pipelines, Stripe billing workflows, multi-agent orchestration, and cloud observability (AWS, PostgreSQL, Kubernetes, New Relic).

EXPERIENCE

Senior Full-Stack Software Engineer | **Independent & Freelance** August 2025 - Present, US, MA, Boston

- **Enterprise Client Delivery:** Delivered a 10-milestone full-stack web platform rebuild, interactive ROI calculator suite, and custom client portal for a US enterprise recruiting firm, owning architecture, responsive UI, and automated end-to-end verification.
- **AI Voice & SMS Dispatch SaaS (frontdeskanswer.com):** Architected and operated a 24/7 AI phone receptionist and two-way SMS dispatch platform for trade contractors and restaurants using **Python, FastAPI, Next.js 15 (React 19, TypeScript), and PostgreSQL**, processing live PSTN audio streams over Telnyx WebSockets with low-latency speech-to-text state transitions.
- **Multi-Agent Workflow & Scheduling Platform:** Designed and built an event-driven **Python, FastAPI, SQLAlchemy, and PostgreSQL** execution engine orchestrating 35+ autonomous background workflows, advisory-locked cron/window task queues, human-in-the-loop approval gates, and a real-time **React/TypeScript** operator console.
- **Adaptive Outbound Deliverability Governor:** Engineered a closed-loop email deliverability controller (**SMTP/IMAP, Gmail OAuth, Resend**) with Additive-Increase/Multiplicative-Decrease (AIMD) per-mailbox rate limiting, automated cross-provider seed-inbox placement verification (INBOX vs. SPAM), and bounce/complaint circuit breakers across 20+ sending domains.
- **FinTech Billing, Document AI & Observability (renewalrescue.com, easypayrequest.com, casemind.app):** Built full-stack SaaS platforms using **FastAPI, Next.js, TypeScript, PostgreSQL, Railway, and Stripe Connect/Webhooks**, backed by multi-cloud **New Relic NRQL / Cloudflare** monitoring and headless **Playwright (CDP)** verification gates across 30+ deployed web apps.

Senior Software Engineer | **Jobcase, Inc** August 2021 - August 2025, US, MA, Cambridge

- Designed, developed, and maintained resilient backend communication systems for a high-traffic social platform, employing **Java, Spring Boot, and SQL** to support millions of users.
- Built and operated microservices with event-driven stream and queue processing on **AWS Kinesis, AWS SQS, Docker, and Kubernetes**.
- Integrated **OpenAI/ChatGPT APIs** into communication template workflows; supported internal experimentation by generating and evaluating message content variants using live engagement signals (e.g., click-through rate).
- Led post-acquisition consolidation of two compliance and suppression systems, unifying validation logic and streamlining data flow through a single authoritative service.
- Implemented and tuned observability (metrics, dashboards, alerting) using **New Relic, Datadog, and Sumo Logic**, reducing paging noise and improving on-call triage and time to diagnosis.
- Applied ETL data processing to **Amazon Redshift**, significantly enhancing data management efficiency; mentored junior engineers through pairing and code/design reviews.

Software Engineer | **Jobcase, Inc** October 2019 - August 2021, US, MA, Cambridge

- Developed and iterated on the core *For You* feed experience using **React.js**, shipping user-facing improvements on a high-traffic consumer product surface.
- Implemented and evaluated full-stack UI/content A/B experiments, iterating based on engagement signals (e.g., click-through rate) and partnering with product and design to deliver end-to-end features.

SELECTED PROJECTS

FrontDeskAnswer | frontdeskanswer.com (Python, FastAPI, Next.js 15, React 19, TypeScript, PostgreSQL, Telnyx Voice/SMS, Stripe)

- 24/7 AI voice receptionist, interactive browser voice demo, and two-way SMS dispatch SaaS for contractors and restaurants.

RenewalRescue & EasyPayRequest | renewalrescue.com & easypayrequest.com (FastAPI, Next.js, TypeScript, PostgreSQL, Stripe Connect/Webhooks)

- Automated Stripe failed-payment dunning recovery and PDF invoice payment-request SaaS platforms with background worker queues.

CaseMind | casemind.app (FastAPI, Python, Next.js 15, React 19, TypeScript, PostgreSQL, OpenAI API)

- AI-powered legal document analysis web app enabling users to upload contracts/filings for structured summaries, key insights, and Clio integration.

Polar Ace (Java, Spring Boot, Docker, AWS Elastic Beanstalk, AngularJS/Express.js)

- Deployed and enhanced a creator cloud platform with a Spring Boot microservice handling real-time Twitch EventSub webhooks and DNS routing.

EDUCATION

Bachelor of Science in Computer Science | **Brandeis University** Waltham, MA, 2015

SKILLS

Programming Languages & Backend: Python (FastAPI, SQLAlchemy, Pydantic, AsyncIO, Pytest), TypeScript, Java (Spring Boot, Spring MVC), SQL, C++

Frontend & Web Technologies: React.js, Next.js (App Router), TypeScript, Tailwind CSS, REST APIs, WebSockets, Playwright (CDP)

AI, Voice & Messaging Systems: OpenAI / Claude APIs, Real-Time Voice (STT/TTS, Telnyx WebSockets), Multi-Agent Orchestration, Email Deliverability (SMTP/IMAP, AIMD)

Cloud, Databases & Observability: PostgreSQL, MySQL, Amazon Redshift, AWS (Kinesis, SQS, S3, Elastic Beanstalk), Docker, Kubernetes, Railway, Datadog, New Relic, Sumo Logic