

Richard (Yuxuan) Liao

Software Engineer

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Software engineer building and shipping AI agents and production applications. Delivered agent-powered investment research workflows at Thema and marketing experiences serving millions of daily active users at ByteDance. Independently designed and released desktop, web and mobile products, with hands-on experience in tool execution, model integration and recovery.

EXPERIENCE

Thema

London, UK

Front End Developer

Jan 2026 - Present

- Delivered agent-powered market research and investment diligence workflows, integrating planning, streamed results, research artifacts and shortlists in a single analyst workspace.
- Built execution controls and recovery for long-running agent workflows, including tool-call inspection, cancellation, retries and resuming market creation after reloads or laptop sleep.
- Shipped AI-assisted company screening with streaming research columns and rubric-based evaluations, allowing analysts to assess companies against investment criteria and resume work after refresh.
- Built a research and memo editor with version history, unsaved-edit recovery, embedded tables and nine chart types, enabling analysts to refine and export agent-generated research.
- Introduced Playwright end-to-end coverage, offline MSW mocks and CI reporting for repeatable validation of research and evaluation workflows.
- Improved responsiveness for large datasets through virtualised lists and market-data preloading; migrated charts to Recharts and removed approximately 30,000 lines of unused code.

ByteDance

Shanghai, China

Front-End Developer II

Aug 2021 - Feb 2024

Promoted from Front-End Developer in Oct 2022

- Partnered directly with marketing and business development teams to define campaign requirements, deliver custom pages and components, and turn feedback into rapid product improvements.
- Developed reusable React components for an internal low-code marketing platform, enabling teams to configure and launch coupon and campaign pages.
- Led front-end delivery for the second of two consecutive Spring Festival campaigns, owning architecture, task allocation and complex features. Launched on schedule with no P0/P1 incidents during the event.
- Delivered and maintained Douyin marketing experiences serving millions of daily active users, with automated UI testing, CI/CD, release quality assurance and on-call troubleshooting across web and hybrid apps.

Alibaba Group

Hangzhou, China

Front-End Engineer Intern

Jun 2020 - Sep 2020

- Delivered government-facing DingTalk applications across three business iterations and built five reusable components, including two cross-platform Rax components.
- Built VS Code tooling for the internal low-code platform and automated internationalisation workflows. Published technical guidance and earned a return offer.

SELECTED PROJECTS

Tron | Open-source AI terminal agent

tronai.dev | GitHub

TypeScript, React, Electron, Node.js, xterm.js, node-pty

- Designed and shipped an LLM-powered terminal agent that plans multi-step tasks, executes shell commands and uses output to choose next actions and recover from errors, locally or over SSH.
- Engineered command approvals, dangerous-command checks and loop guards, with persistent sessions and cloud/local model support. Released native installers across macOS, Windows and Linux, reaching 300+ GitHub release downloads.

Recast | AI writing and automation across apps

recast-ai.uk | App Store

TypeScript, Svelte, Tauri, Rust, Swift

- Designed and shipped macOS writing and automation workflows combining AI rewrites, shell macros and agent steps, with command approval, streaming output and automatic model fallback.
- Extended the product to iPhone and published it on the App Store, with keyboard, Share and Shortcuts integrations and shared prompt templates and provider behaviour.

Cipher Zero | AI deduction game

jev-games.com

TypeScript, Next.js, React, Socket.IO, SQLite, Jev, Docker

- Designed and deployed a bilingual AI deduction game with generated decks, Jev-based judging and server-controlled rules. Built solo and real-time multiplayer modes with persistent progress and reconnection.
- Built a judging pipeline combining evidence retrieval, confidence thresholds and model fallbacks; kept uncertain candidates in play when facts were missing or contradictory.

ADDITIONAL EXPERIENCE

University College London

London, UK

Postgraduate Teaching Assistant, App Engineering

Jan 2025 - Apr 2025

- Mentored students in Next.js application design and implementation, helping them make architecture decisions and debug projects using Prisma, NextAuth and SQLite.

EDUCATION

University College London

2024 - 2025

MSc Computer Graphics, Vision and Imaging | Distinction, 80%

Dissertation (86%): real-time gesture input on Meta Quest 3; snap detection AUC 0.967 with 156 ms latency.

University College London

2018 - 2021

BSc Computer Science | First-Class Honours

SKILLS

Engineering: TypeScript, JavaScript, Python, React, Next.js, Node.js, SQL; Electron and Tauri

Agents and AI: LLM APIs, tool calling, prompt templates, streaming, model fallback, permissions, recovery, evidence retrieval

Delivery: Playwright, Vitest, MSW, GitHub Actions, Docker, Cloudflare Workers

Languages: English (fluent), Chinese (native)