

ZHENDI FAN

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Full-stack and AI engineer. Solo or lead engineer on 10+ production systems at Bielcrystal since Oct 2024. Engineers accepted 91.6% of my AI code reviewer's labeled comments, and my document pipeline saves ~HKD 300k per month.

EXPERIENCE

Bielcrystal Innovation Technology

R&D Engineer

Hong Kong Science Park

Oct 2024 – Present

In-house engineering team building internal systems for Biel Crystal's factories, logistics, and R&D.

- **Crystal Review** (solo). Built a multi-agent AI code reviewer (planner, parallel reviewers, judge) shipped as a GitHub App. On 26 production PRs, engineers accepted 76 of 83 labeled comments (91.6%).
- **Shipping documents**. Built a tool that turns shipment Excel files into CJK-ready invoices, packing lists, contracts, and customs forms. Cut that team from 20+ to 3–4 people, saving ~HKD 300k per month.
- **Freight load planner** (solo). Built a Rust solver (bin packing plus large neighborhood search) that returns globally optimal truck-fleet plans in 33–66 s. A 792-case real-shipment regression suite gates every change in CI.
- **Freight payables platform** (lead). Led the system (React, Convex, Expo; 442 releases) used by 5 requester departments plus shipping, accounting, and approvers. LLM extraction has read 2,152 uploaded files in production.
- **Plany** (solo). Built the company's Linear-style work tracker: web, Electron, and Expo apps on Convex, with real-time collaborative docs, AI meeting summaries, and an MCP memory server. 232 releases in 5 months.
- **Multi Layers Lab** (solo). Built a thin-film coating design suite (Tauri, Rust, React, PyTorch) used in production coating workflows for a global consumer-electronics maker's flagship phones.
- **Handwrite OCR** (solo). Four OCR engines vote per cell on photos of handwritten factory tables, with LLM arbitration. Switching model output from HTML to JSON cut tokens 35% and latency 27% at equal accuracy.
- **Metrology and masks**. Fine-tuned SAM 2.1-HQ to measure SEM gratings within 0.5% (period) and 5% (height) of analyst labels. Cut glass-etching mask generation from 72+ hours to under 1 minute with a C++/CGAL tool.
- **QR traceability** (solo). Go, Tauri, and Expo system. Brotli, two-key AES, and Base45 fit >30% more data than standard QR.

Digital Artisan Limited

Founder and Director

Hong Kong

Feb 2023 – Present

- Founded a studio for interactive games and museum installations. Directed an air-traffic-control game for the HK Civil Aviation Department, shown at the HK International Airport Career Expo.

EDISON.AI (Tokyo) and RentalEase (Singapore, remote)

Web Developer and UI/UX Designer Intern

Dec 2022 – Jul 2023

OPEN SOURCE

Repo Wizard | *TypeScript, Rust, Tauri*

336 GitHub stars

- Desktop app that applies multi-file LLM code edits behind per-change diff review, across Gemini, Claude, and GPT.

convex-logto, **convex-localfirst**, **convex-improved-search** | *TypeScript*

5,200+ npm downloads in 2026

- Auth, offline-first sync, and CJK substring search for Convex. convex-logto runs in 9 internal Bielcrystal apps.

HDT Sampling | *Rust, Python*

81 GitHub stars

- Blue-noise (Poisson-disk) sampler with a Rust core and Python bindings on PyPI. About 100× faster than SciPy.

erainfra | *TypeScript, Go*

pre-1.0

- Self-hosted GitHub Actions runners with a Convex control plane: a Firecracker microVM per Linux job, Tart VMs for macOS, Hyper-V for Windows.

Upstream: 8 merged PRs: alibaba/open-code-review (4), Dimillian/CodexMonitor (2), release-please, material-ui.

SKILLS

AI and ML: PyTorch, SAM fine-tuning, multi-agent LLM pipelines and evals, vision-LLM extraction, OCR ensembles, Claude Agent SDK, MCP

Languages: TypeScript, Rust, Python, Go, Swift, C++, SQL

Frontend and apps: React, Next.js, TanStack Router, Tailwind, Three.js, Tauri, Electron, Expo, React Native

Backend and infra: Convex (self-hosted), PostgreSQL, Docker, Kamal, Caddy, Cloudflare Tunnel, GitHub Actions

Spoken: Mandarin (native), English (fluent), Cantonese (intermediate), French (intermediate)

EDUCATION

The Hong Kong Polytechnic University, BSc (Hons) in Internet and Multimedia Technologies 2020 – 2024