

# Tai Lin

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Founding engineer focused on building agentic systems and the infrastructure required to make them work in complex, real-world domains. At HighFi, I scaled the first two key customers from \$0 to \$350K ARR as the primary technical point of contact for complex system integrations. I design and build the core systems, configurable financial engines, multi-step AI agents, and autonomous dev tooling that translate ambiguous requirements into deterministic, production-grade workflows.

## EXPERIENCE

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### Founding Software Engineer | HighFi

Mar 2023 – Present

*AI-enabled capital markets infrastructure · TypeScript, PostgreSQL, Next.js, Vercel AI SDK, Pulumi, GCP*

#### AI Agent Products (Penny & Millie)

- Shipped `Penny`, an in-app Capital Markets AI Agent (Claude + Gemini, streaming) for real-time risk reporting, funding requests, and ledger management, owned concept to live deployment, replacing manual legacy processes in funding operations.
- Architected and shipped `Millie`, a context-aware Slack agent that dynamically builds authorized toolsets per-request, supports 15-step multi-tool execution, and handles capital markets funding requests, SOFR rate updates, & portfolio reporting with full webhook verification, event deduplication, and thread-persistent conversation history in PostgreSQL.

#### Platform (Agent Harness & Context Layer)

- Designed and built a production AI agent harness with typed dependency injection, structured step tracing, stateful hand-off returns between coordinated agents, and per-step Slack observability. This harness spawned 6 agents across a multi-tenant capital markets platform.
- Implemented a role-based capability registry that gates LLM tool access by customer config and user role, generating dynamic system prompts with per-capability workflow manifests for safe, auditable multi-step financial operations.

#### Core Systems

- Led the design of a config-driven financial calculation engine supporting dependency graphs, runtime-evaluable expressions, and unified eligibility, concentration, and facility-level formulas; replaced rigid hardcoded logic with extensible self-serve configuration.
- Architected the lending Assignment Engine, a core algorithm for assigning receivables under borrowing base constraints, enforcing concentration limits, and supporting add/remove strategies with deterministic, priority-sorted outcomes.

#### Agentic Infrastructure

- Built `Night Agent` agentic development pipeline: a three-stage Claude Code pipeline on GitHub Actions (Planner → Implementer → QA) enforced by a zero-trust shell harness that operates below the prompt layer. Every command routes through a user-defined allowlist before execution, creating a structural safety guarantee that no prompt-layer guardrail can provide. Specs written by day, PRs reviewed at 8 AM.

## Software Engineer → Software Engineer II | Utradea

Mar 2021 – Feb 2023

Social investing platform → B2B API layer · Node.js, MongoDB, PostgreSQL, AWS, Redis · Merged with Financial Modeling Prep

- Joined as the first engineering hire with no formal CS background; self-taught and shipped paid production features within months.
- Built the SEC Dashboard end-to-end: NLP classification pipeline (winkNLP, VADER), parsing SEC 8-K filings into summarized, investor-readable insights with keyword extraction and price-change context shipped as a full product feature.
- Integrated Stripe end-to-end, enabling Utradea's first paid users and establishing the monetization foundation.
- Piloted an early OpenAI API integration powering Financial Writer, an AI-generated news article tool built on real-time market data, shipped before ChatGPT made this obvious.
- Led post-merger migration of 50+ FMP APIs into Node.js/MongoDB; re-platformed Utradea from Lightsail onto ECS with Fargate and load balancers as traffic scaled, owned the full infrastructure transition.
- Implemented Redis cycle caching for high-frequency stock price reads with subscription-tier rate limiting across a multi-node cluster, designed for read/write throughput at scale.

## Business Analyst | BMO Financial Group

May 2018 – Mar 2021

Capital markets & commercial banking · Requirements, systems analysis & data

### Senior Business Analyst

Nov 2020 – Mar 2021

- Led the decommissioning of a vendor risk management platform, owning business requirements and migration to a streamlined in-house replacement
- Defined E2E requirements and drove cross-functional delivery for the Credit Flow for Commercial Banking transformation

### Business Systems / Data Analyst

May 2018 – Nov 2020

- Owned E2E Client Portal Integration project, streamlining business banking onboarding from prospecting to signing across legacy systems via API
- Enhanced Online Banking for Business experience as part of the client portal integration, coordinating across multiple platform teams
- Introduced configurable credit compliance reporting templates, scaled across multiple lines of business to standardize regulatory workflows

## EDUCATION

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### Bachelor of Commerce (B.Com.) | University of Toronto Rotman Commerce

2018

Major in Management · Minor in Economics

### Venture Growth in Machine Learning Stream | Creative Destruction Lab (CDL)

2017 – 2018

Student Cohort 2018 · Worked alongside ML-native founders and operators; developed early conviction in AI-native product building

## SKILLS

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### Engineering design

TypeScript · PostgreSQL · Redis · AWS (ECS, RDS) · API design · LLM orchestration · System

### Product

0→1 product development · Requirements definition · Roadmapping · PMF thinking

### Domain

Capital markets · Commercial banking · Risk & compliance · Fintech infrastructure