

IKER HUANG

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SUMMARY

Second-year Computer Science Specialist at the University of Toronto who builds, deploys, and operates production software. Ships full-stack and backend services on Cloudflare Workers, Docker, and self-hosted Linux in TypeScript, Python, and Bash, owning them end to end - architecture, deployment, monitoring, and production debugging. Strong systems and networking foundation (Linux internals, TCP/IP, DNS, VPN), shown by a Top-15 UofT Division finish in UofTCTF 2026. Seeking a Software Engineering, Backend, DevOps, Cloud, AI/ML, or Site Reliability internship.

EDUCATION

University of Toronto, Toronto, ON

Expected May 2028

Bachelor of Science, Computer Science Specialist - International Merit Admission Award

Coursework: Data Structures and Algorithms, Object-Oriented Programming (Java), Software Design, Computer Organization, Systems Programming (C), Discrete Mathematics, Linear Algebra, Calculus

WORK EXPERIENCE

Co-Founder and Technical Lead, TheoryY, Toronto, ON (Remote)

May 2024 - Present

- Lead the technical side of a small software studio: stack selection, cloud architecture, deployment, and production operations across every product shipped.
- Deliver and operate production services on Cloudflare Workers, Docker, and self-hosted Linux; accountable for uptime, deployment, monitoring, and post-deploy debugging.
- Run client discovery with non-technical business owners across three languages, translating operational pain into scoped, estimated work.
- Direct a multi-repository codebase (TypeScript, Python, Next.js, Docker) through Git and GitHub with pull-request review, issue tracking, and roadmapping across concurrent projects.
- Shipped a marketing and product website on Next.js 16 (App Router, React 19) and Tailwind CSS v4, deployed to the Cloudflare edge via OpenNext.
- Built an equity-research agent in Python that plans its own retrieval over live SEC EDGAR filings and FRED macro series (pandas, numpy), enforcing citation-backed output so no figure ships without a source.
- Designed a hybrid retrieval layer fusing structured, lexical (pg_trgm), and semantic (pgvector) channels via Reciprocal Rank Fusion, re-ranked by per-source trust score.
- Built a human-feedback flywheel on an append-only verification ledger: corrections update source-trust posteriors nightly, then export as labeled JSONL and few-shot exemplars re-injected into extractor prompts.
- Developed MCP servers exposing financial-data tools to LLM clients; cover the system with a pytest and Hypothesis suite asserting store invariants and retrieval quality.

Founder and Infrastructure Engineer, Sinapsis, Toronto, ON (Remote)

Jun 2026 - Present

- Built a self-hosted ERP platform for small and mid-sized businesses: ERPNext v15 on Docker Compose behind a Cloudflare Tunnel with zero open inbound ports, no public IP, and automated TLS.
- Cut provisioning from a multi-hour manual server setup to one idempotent Bash script taking a bare Ubuntu Server install to production, including database, reverse proxy, backups, and alerting.
- Architected an AI assistant over the ERP that executes API calls under each end user's own permission scope and requires explicit human confirmation before any write, preserving the existing authorization model rather than bypassing it.
- Ground the assistant strictly in tool results rather than model memory - it reports "not found" instead of inventing records.
- Automated nightly maintenance, backup, and health-check jobs, with outage alerting routed to an operator messaging channel.
- Structured the platform as a reproducible single-tenant template: each customer deployment is fully isolated, with its own database, storage bucket, and credentials.

Software Engineer and Deployment Lead (Contract), Import and Logistics Client, Remote

Jul 2026 - Present

- Delivered a production multi-currency bookkeeping and expense-tracking service to a live import/logistics business handling USD, RMB, and VES.
- Built on Cloudflare Workers with Hono and TypeScript, using D1 (SQLite) as system of record with versioned schema migrations, R2 for receipt archival, and Cron Triggers for scheduled reconciliation.
- Designed a human-in-the-loop confirmation flow so no ledger write commits without staff approval, plus a two-way sync with the team's spreadsheet workflow that resolves concurrent-edit conflicts.
- Integrated natural-language transaction parsing and receipt OCR through vision model APIs, routing inference across Gemini, DeepSeek, and OpenAI for cost and reliability tradeoffs.
- Gate every deploy on a Vitest suite executed against the Cloudflare Workers runtime; manage secrets, staging configuration, and production rollout through the Wrangler CLI.
- Own the support lifecycle through rollout, training, and live incidents, diagnosing defects against real financial data under time pressure.

Capture the Flag (CTF) Competitor, Cybersecurity and Network Analysis, Remote

Jan 2024 - Present

- Ranked 15th in the University of Toronto Division at UofTCTF 2026; competing in PicoCTF 2026 with 100+ challenges solved.

- Wrote automated Python scripts to parse large datasets, brute-force encodings, and script solutions to reverse-engineering and cryptography challenges.
- Applied TCP/IP and OSI-model knowledge to packet analysis in Wireshark, identifying network-level vulnerabilities and misconfigurations.
- Used Linux internals - permissions, process management, environment handling, system logs - to diagnose failure modes and document reproducible findings.

PROJECTS AND LEADERSHIP

Tuxie's Wiki, Project Manager and Lead Developer, Remote **May 2024 - Present**

- Lead an open-source documentation site publishing 20+ beginner-friendly Linux and technology guides, live at tuxies-wiki.theory.dev; 10+ GitHub stars.
- Coordinate outside contributors through GitHub issue tracking, task assignment, pull-request review, and roadmapping.
- Implemented and maintain the VuePress build and deployment pipeline: theming, navigation, and static site generation.

lunear-nixos, Declarative Linux Infrastructure, Remote **Jun 2026 - Present**

- Manage two physical machines from a single version-controlled NixOS flake, making every package, service, and dotfile reproducible from scratch.
- Designed a flat, modular configuration: shared baseline modules plus per-host overrides, so a new machine is onboarded by adding one host directory.

lunearpi, Dockerized Raspberry Pi Homelab, Remote **2026 - Present**

- Built and operate a self-hosted Raspberry Pi server stack running containerized services under Docker Compose.
- Deployed network-wide DNS filtering, a self-hosted VPN, and a reverse proxy with TLS termination; handle container updates, log review, and remote access hardening.

Luarch OS, Custom Linux Distribution, Remote **Sep 2025 - Present**

- Developed an Arch Linux-based distribution shipping a pre-configured Hyprland desktop environment for new Linux users.
- Automated the image build with archiso and custom Bash scripts; tested bootable ISOs under QEMU and documented the build publicly on GitHub.

What2Cook, Software Developer, Remote **Nov 2025 - Dec 2025**

- Team project integrating REST APIs for real-time recipe data, with error handling and local caching to cut API token consumption.
- Contributed to a layered architecture separating data access from UI, under a pull-request-per-commit review workflow.

SkyPath, Developer, Remote **Apr 2025 - Sep 2025**

- Built a travel-planning tool applying graph and tree data structures to route optimization; benchmarked pathfinding approaches on runtime and correctness.

Tizcord, Developer, Remote **2025**

- Terminal-based online chat platform written entirely in C: low-level socket programming and manual memory management.

SKILLS AND INTERESTS

Programming Languages: TypeScript, JavaScript, Python, Java, C, Bash/Shell Scripting, SQL, Nix, HTML, CSS, Markdown

AI and LLM Engineering: LLM application development, AI agents, agentic workflows, tool calling, prompt engineering, retrieval-augmented generation (RAG), hybrid retrieval and re-ranking, vector search, structured output and JSON schema validation, human-in-the-loop confirmation, multimodal extraction (OCR), agent evaluation, MCP

AI APIs and Frameworks: Anthropic Claude API, OpenAI API, Google Gemini API, DeepSeek, LangChain, Claude Agent SDK, pandas, numpy, Pydantic, FastAPI, pgvector

Cloud and DevOps: Cloudflare Workers, D1, R2, Cloudflare Tunnel, Cron Triggers, Docker, Docker Compose, CI/CD pipelines, infrastructure as code, deployment automation, QEMU virtualization, Wrangler CLI

Backend and Data: REST API design and integration, Hono, Node.js, webhooks, SQLite/D1, PostgreSQL, Redis job queues, relational schema design, database migrations, SQLAlchemy, Alembic, Google Sheets API, caching, rate limiting

Frontend and Web: React 19, Next.js (App Router), Tailwind CSS, Vue, VuePress, responsive design, static site generation, edge deployment

Operating Systems and Infrastructure: Linux (Arch, Ubuntu Server, NixOS, Kali), NixOS flakes, Home Manager, Hyprland/Wayland, system administration, server hardening, systemd, reverse proxy, DNS filtering, self-hosted VPN, Raspberry Pi

Networking and Security: TCP/IP, OSI model, packet analysis, Wireshark, firewall configuration, network monitoring, DNS, TLS/HTTPS, secrets management, least-privilege access control, capture the flag (CTF)

Tools and Practices: Git, GitHub, pull requests, code review, issue tracking, roadmapping, unit and integration testing, Vitest, pytest, Hypothesis, JUnit, technical documentation, agile delivery, debugging, incident response

Language Skills: English (fluent), Mandarin Chinese (native), Spanish (professional working proficiency)

AWARDS

UofTCTF 2026 - 15th place, UofT Division | PicoCTF 2026 - 100+ challenges solved | International Merit Admission Award