

# Juho Choi

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## EDUCATION

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**University of Waterloo - Bachelor of Computer Science** 09/2021 - 08/2026  
**Wilfrid Laurier University - Bachelor of Business Administration (Finance)** 09/2021 - 08/2026

## EXPERIENCE

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**Software Engineer** | Clearco - Toronto, ON Sep 2025 - Dec 2025

- Built an automated GoCardless mandate regeneration pipeline in **Node.js**, decoupling mandate recovery from payment retries to eliminate race conditions across concurrent payment flows
- Engineered a targeted Non-sufficient funds (NSF) ACH retry flow in **TypeScript** that preserved daily payment-processing windows and improved cash collection reliability
- Diagnosed and resolved **production incidents** across billing and payment services; conducted code reviews for platform engineers to maintain system reliability
- Shipped Prisma and **PostgreSQL** migrations and backfills that restored 600+ legacy records, corrected 16,000+ exchange-rate fields, and resolved 40+ billing discrepancies
- Standardized currency validation across bill creation flows in **NestJS**, eliminating BigInt runtime errors and strengthening production reliability with **Jest unit tests**

**Software Engineer** | Escape Platforms - Remote Apr 2025 - Jul 2025

- Improved real-time application performance by building Node.js APIs backed by **DynamoDB** and caching, reducing latency for interactive map workflows
- Set up **GitHub Actions CI/CD** for lint, test, and deploy on every PR, reducing release cycle time by over 80%
- Owned **end-to-end** map feature delivery at a 9-person startup using Flutter and Mapbox; shipped real-time location search serving 100 users

**Software Engineer** | QuadReal Property Group - Toronto, ON Jan 2025 - Apr 2025

- Reduced market-analysis time by **60%** by designing and owning an AI market research agent with a **Go** backend and a chat interface built with **React** and TypeScript, validated with Jest unit tests
- Automated analysis of **100+** market reports weekly by extracting text from PDFs and images with **Python** and Tesseract OCR, indexing content with LlamaIndex, and answering queries via an internal AI platform [[GitHub](#)] (approved by QuadReal)
- Accelerated site-selection decisions for 200 analysts across **1M+** properties by building 6 pages and 4 interactive maps with React, TypeScript, MapLibre, deck.gl, and Tailwind CSS
- Eliminated manual ETL for geospatial queries by building a **Go REST API** serving PostGIS GeoJSON region data in about 1 second
- Automated daily zero-touch geodata updates via an n8n pipeline that loaded GeoJSON into PostGIS, ran dbt transforms, and pushed outputs to MinIO

**Data Engineer** | Eclipse Automation - Cambridge, ON Jan 2024 - Apr 2024

- Automated PostgreSQL-to-dbt ELT reporting, eliminating 80% manual work across 10K+ rows for 20+ analysts

**Research Assistant** | University of Waterloo, Mechanical Engineering Lab - Waterloo, ON Apr 2026 - Present

- Supporting full-stack IoT monitoring platforms with real-time data visualization for research operations

## PROJECTS

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**Disk-Based Database Engine in Go** | Go · B+Tree · SQL Parser · Concurrency [[GitHub](#)]

- Built a disk-based DB engine with a B+Tree index for  $O(\log N)$  reads and crash recovery via copy-on-write and fsync
- Implemented SQL parser for schema and multi-table queries; improved concurrency with optimistic transactions

**WAVE** | Next.js · TypeScript · PostgreSQL · Drizzle ORM [[GitHub](#)]

- Shipped a full-stack daily journaling app serving **40 active users**, with Google OAuth and localStorage draft auto-save
- Cached a rate-limited third-party content API at the chapter level, eliminating per-read API calls after the first fetch

## SKILLS

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**Languages:** Go, TypeScript, JavaScript, Python, SQL (PostgreSQL)

**Frameworks & Libraries:** Node.js, NestJS, Flask, Django, React, Next.js, Flutter, Prisma, dbt

**DevOps & Cloud:** AWS, GCP, Docker, Jest, DynamoDB, GitHub Actions, n8n