

REESE CHONG

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EDUCATION

University of Waterloo

Waterloo, ON

Honours Bachelor of Computer Science (BCS)

VR Design Team, Warp.dev Campus Ambassador, Rock Climbing, Socratica, Cheese Club

EXPERIENCE

Software Engineer Intern

Apr 2025 - Aug 2025

ElasticEnergy.com

Victoria, BC

- Built the web dashboard enabling real-time fleet management of 10,000+ consumer appliances, owning end-to-end implementation including architecture, security, and mission-critical flows (onboarding, fleet search) with React, TypeScript, TanStack Query, and Zustand.
- Achieved production security compliance by enforcing CSP, rate-limiting, & blocking inline scripts via header middleware and debug logging.
- Designed performant dashboard tables, reducing 1,000-row load times to 200ms with sort/filter, pagination, and memoization.
- Extended hardware capabilities by adding multiprotocol Zigbee connectivity for home devices on embedded-C Nordic firmware.

Software Engineer Intern

May 2024 - Aug 2024

McCray Optical, Inc.

Markham, ON

- Created a reliable company knowledge base by building a semantic retrieval system that surfaced manager-approved responses and expanded with new entries, reducing employee onboarding time by 2 weeks and ensuring all inquiries are answered as if from leadership.
- Achieved accurate, sub-200ms query latency by embedding queries/responses with local models and reranking results with Cohere Rerank.
- Ensured seamless integration into manager workflows by automating ingestion of manager support emails via a Python Pandas script.

Full Stack Engineer

Jan 2023 - Apr 2024

SlaySchool.com

Toronto, ON

- Built a full-stack OSCE medical exam trainer with simulated patients for diagnostic practice, developed with React, Next.js, and Supabase.
- Worked with Stanford learning specialist Ryan Downey to design medical training scenarios and align the app with OSCE standards.
- Engineered session flows and data models to support patient histories, doctor interactions, & scoring, deployed as a production-ready app.

Drone Researcher

May 2023 - Aug 2023

University of Toronto Institute for Aerospace Studies - Flight Systems and Control Lab

Vaughan, ON

- Researched quadrotor drone slung-payload systems for safe wildlife removal, supervised by aerospace M.A.Sc. student Ji Tong Chen.
- Designed and prototyped payload deployment mechanisms with Arduino control, CAD modeling (CATIA), and stepper motor actuation.

PROJECTS

Torial VideoGen AI | [Website](#) | [Blog Post](#) | React, Next.js, TypeScript, Firebase, Google Cloud (GCP)

- Developed an API product and playground that generates 3Blue1Brown-style explainer videos from user prompts and notes.
- Secured B2B partnerships with EdTech companies with **1M+ users** and reaching 1700+ videos generated in the first month of launch.
- Improved video generation speed and cost by 7x, going from 5 minutes to **45 seconds** by fine-tuning Groq inference models.
- Achieved a 95% reduction in malicious requests by designing a per-IP rate limiter at the API gateway using Redis for centralized counters.

Dojang Learning Platform | [GitHub](#) | [Blog Post](#) | Python, Postgres, Docker, SQLAlchemy

- Developed a free open-source EdTech web platform where students upload PDF notes to generate flashcards and mock exams.
- Scaled ingestion to 1000+ page PDFs in sub-2s and 95% parsing accuracy on multi-million token documents via SQLAlchemy and PGVector.

ChatGP-Me (Winner of Hack The North 2024) | [Blog Post](#) | Unity, Cohere API, C#

- Unity game where you pretend to be ChatGPT, and AI grades how artificial you sound. One of 12 winners out of **236 teams**.
- Engineered prompt chains using Cohere AI to grade players' responses on their similarity to real LLM responses. Game code written in C#.

Hawkeye Vision Aid (Winner of Hack The North 2023) | [Blog Post](#) | Python, Google Cloud Vision

- Smart glasses software to assist visually impaired individuals by describing lecture whiteboards with AI.
- Processed lecture notes with **92% accuracy**, leveraging Google Vision for OCR and NLP models for context-awareness.

Lexplora AI Courses | [Blog Post](#) | Python, Next.js, React, Neo4j

- A "Duolingo for anything" app that helps users learn any subject by generating courses on-demand.
- Streamlined procedural course generation with Langchain, each lesson/unit being cumulative rather than being isolated lessons.

SKILLS

Languages/Frameworks: Python, TypeScript, JavaScript, React, React Native, SQL, C/C++, C#, Java, Racket/Scheme, Bash

Frameworks: React.js, Next.js, FastAPI, Pydantic, NumPy, pandas, sklearn, PyTorch, SQLAlchemy, Snorkel, LangChain, Tailwind

Technologies: Git, Docker, PostgreSQL, Supabase, ChromaDB, AWS, GCP, Postman