Chad Rossouw

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Education

Toronto, ON	University of Toronto	Sep 2022 – Jun 2026

HBSc, Computer Science Specialist (Co-op) - Entrepreneurship Stream
Awards: UofT Scholar (<1%), Young Entrepreneurship Scholarship 2024 (20 students)

Work Experience

Teaching Assistant	University of Toronto	Sep 2025 – Present

Part Time | Toronto
- Supported **60+** students in mastering full-stack web concepts, including React, Express, and SQL.
- Led labs, code reviews and office hours to reinforce technical understanding and debugging skills.
- Graded assignments and delivered targeted feedback to strengthen students' coding proficiency and architectural thinking.

Software Engineer	Venho.AI	May 2025 – Aug 2025
**Full Time	Remote**		Sept 2024 – Dec 2024

- Built an adaptive AI-powered frontend incorporating third-party services (e.g., Gmail) through an interactive chat interface, tripling third-party product integrations.
- Designed and implemented a semantic analysis engine that interprets natural-language input and generates actionable AI tasks, reducing user friction by **23%**.
- Engineered streamed, realtime AI responses with guided workflows, enabling seamless context sharing between tasks.

Software Engineer	AirImpact	Jan 2024 – Apr 2024

Full Time | Remote
- Redesigned Python service architecture to enhance maintainability and efficiency, boosting API throughput by **57%**.
- Led migration from OpenAI API to open-source LLMs on AWS Bedrock, improving data privacy and cost efficiency.
- Enhanced document parsing capabilities to robustly handle advanced tables, images, and graphs using optical character recognition, providing a **48%** reduction in processing errors.

Volunteer Experience

Apache Superset (Open Source)	Sep 2025 – Dec 2025

Project: Cloudflare D1 Datasource Integration
Developed a Python DB-API driver and SQLAlchemy dialect enabling Superset to connect to Cloudflare D1, supporting queries and dashboards via an external integration.

Chair of Technology	Google Developer Student Club	Jan 2024 – Aug 2025

Led the development of GDSC's GenAI Genesis Hackathon website, implemented in React (Next.js) and Firebase, leading to **1000+ applicants** and **300+ hackathon attendees**.

Projects

Pintos Operating System   C, Docker
Built core kernel modules (thread scheduler, virtual memory, user loader, file system) in a lightweight operating system.
Added multi-level paging with lazy loading, stack growth and memory-mapped files to improve memory efficiency.
Reduced disk I/O latency by **40%** via sector caching and eviction policies.

Eccountant | GitHub   Docker, TypeScript, Angular, PostgreSQL, Plaid, Ngrok, Redis
Developed a financial platform aggregating transactions across multiple credit/debit accounts with subscription detection.
Ranked **2nd** of **100+ students** by industry experts in CSCC09 - Programming on the Web.

PromptBook | Website   React, TypeScript, Hono, Drizzle, Tailwind, Cloudflare AI
Built an AI-powered interactive notebook for live prompt engineering and markdown workflows, inspired by Jupyter.
Developed drag-and-drop cells (Text, Input, Prompt) with augmentable AI prompts and preset library support.
Integrated file upload with vector DB semantic search, reducing cost of file-supported prompts by 80%.

Technical Skills

Programming: Javascript/Typescript, Python, SQL, C, Rust, Go, Java, HTML/CSS, Bash, Dart
Libraries/Frameworks: React, Angular, Next, Node, Express, PostgreSQL, MongoDB, Flask, Flutter
Tools: Docker, Git, Github, Cloudflare, AWS, GCP, Unix/Linux, Jira, Vector Databases, Cursor/Copilot
Relevant Coursework: Data Structures & Algorithms, Software Architecture, REST APIs, OOP, Operating Systems, Computer Networks, Cybersecurity