

CLARE ELCHUK

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EDUCATION

McMaster University – Hamilton, ON

CLASS OF 2022

Combined Honours - Bachelor of Arts & Science and Computer Science

WORK EXPERIENCE

CarbonGraph – Software Engineer TYPESCRIPT, REACT, AWS, POSTGRESQL

OCT 2022 – AUG 2024

Full stack developer building flagship cloud-based web app to perform life-cycle assessments of products. Worked on a very small team of developers as we built our visual graph editor UI, backend business logic, data ingestion pipelines, and metrics.

- Performed daily software maintenance, implemented new features, documented and fixed bug tickets, and conducted code reviews and UAT on changes affecting every part of the software stack.
- Built new pipeline for ingesting scientific datasets into our own database. This included mapping the raw data to our in-house data model, determining what information went beyond our current schema, adding those tables to our database, adjusting our business logic & unit tests across the project to account for this new data.
- Wrote transformers to mass-edit the data in our database in preparation of new schema changes.
- Proposed implementation for large new features, illustrated proposals with diagrams and led discussion of design considerations as well as division of work among team members.
- Rapidly prototyped AI-powered drafting tool that let users quickly demo our software. Reworked the number & nature of AI agents several times while teammates overhauled the UI. Researched & presented prompt-engineering techniques at regular Dev Share meetings to support this new feature.
- Debugged & extended live collaboration feature using AWS's implementation of the MQTT 5 protocol.
- Dedicated personal development time to more deeply understanding our AWS CI/CD infrastructure.

McMaster University CompSci Dept. – Discrete Mathematics Teaching Assistant

SEP 2020 – DEC 2021

- Led remote tutorial sessions for Computer Science and Software Engineering students using Microsoft Teams
- Delivered personalized support to students during office hours and over email.

Transcom North America – Technical Support Advisor

JUN 2021 – SEP 2021

- Provided end users with remote technical support for iPhones and iCloud accounts
- 5 weeks formal training with customer relations and technical knowledge
- listened to end users to quickly & accurately diagnose issues and guided them through the correct troubleshooting flow
- gained intimate knowledge of the customers' end of account recovery and common flaws in recovery flow

PROJECTS

LILOS C, ASSEMBLY, MAKE

[LINK](#)

A computer's operating system, written from scratch. Undertaken to develop skills for working with the hardware-software interface and embedded systems.

- Kernel includes memory paging, heap memory, multitasking, crash handling, a file system, and a standard library
- Currently rewriting in the Rust language

GONI-GO TYPESCRIPT, REACT NATIVE

An easy-to-use app for post-op breast cancer patients to monitor range of motion loss after surgery.

- Commissioned by a doctor at McMaster Hospital during the early COVID-19 pandemic.
- Received investment offers from third-party investors at the final stakeholders' presentation.

JACK COMPILER PYTHON

[LINK](#)

A program that translates code from a Java-like programming language into a machine-readable series of ones and zeros. Built as a learning exercise to better understand how code written by programmers translate into computer operations.

SKILLS

Languages:

Typescript, Python, PostgreSQL, C, Java, CSS, C#

Frameworks/Libraries:

React, React Native, Tailwind, RESTful APIs, Vitest, Astro, LangChain

Tools:

Git, Node.js, AWS, Docker, Figma, Jira, Linear

REFERENCES AVAILABLE UPON REQUEST