

# Henry Nguyen

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## Education

### University of Waterloo - Bachelor of Computer Science

Received Carl A. Pollock scholarship, President's Scholarship

Waterloo, Canada

2021

## Experiences

### Databricks

Software Engineer Intern

San Francisco

May 2024

- Logging and Metrics

### X (Twitter)

SRE Intern

San Francisco

Jan. 2024

- Built a faster Zipkin UI to render huge microservices function traces (40,000+ function calls). Being used across the engineering team, and significantly faster experience than open source tools. I was responsible for 100% of design, launch, and development of this product.
- Working on load management, scaling, and site reliability tools.

### Transify

Software Engineer

Toronto

May 2023 - Now

- Contributed to open-source Graphhopper routing engine in Java, optimizing interactive road network calculations from 30 seconds to under 3 seconds.
- Built a realtime vehicle location map and dashboard for use by Brampton Transit, improving on-time-performance of buses.

### Super.com

Software Engineer Intern

Toronto

Jan 2023 - May 2023

- Migrated legacy credits/coupons system to a unified credits experience, enabling rewards from hotel bookings to be integrated with Super's credit card.

### Dropbase

Software Engineer Intern

May 2022 - Aug. 2022

- Contributed to Pandera (1.7K Github stars + 23K daily downloads) (sped up type coercion 2x), #914 (more ways to report unique errors), jqnatividad/belt#1 (datetime parse bug, used by QSV crate)
- Refactored data validation to increase maximum file size from 8MB to 100MB.
- Re-architected Python backend to support on-premise customer databases.
- Built schema inference, enabling customers to load datasets with thousands of columns.

## Projects (more on [Github](#) ↗)

### Interactive Transit Travel-Time Map (<https://map.henryn.ca>)

Rust (for pathfinding), MapboxGL JS, React

- Reached front-page of HackerNews. Featured on BlogTO, DailyHive, reposted on Twitter with 30,000 unique visitors in first week, and 140+ Github stars

### Full-Text Search Engine 🔍

C++ for core engine, Python for tests/external API, and Javascript for UI

- Indexed the entire Wikibooks dataset, allowing instantaneous full-text search.

### ACID Key-value Database 🔍

Rust

- Created a JSON database that supports concurrent ACID transactions and nested JSON objects.
- Ensured serializability across multiple threads by continuous randomized testing.

### 3D Renderer from Scratch 🔍

C++, WebAssembly, Javascript, and HTML Canvas

- Created a software 3D renderer from scratch using C++ without OpenGL or native graphics APIs.

## Awards

2020 **Bronze Medalist (82nd place)**, International Chemistry Olympiad

Turkey