

he/him

# Stephen Lu



## Software developer passionate about bioinformatics and personalized healthcare

I am currently a junior at McGill University in the Computer Science and Biology joint honours program. I was a co-founder and early SWE at [Hero AI](#) — a Canadian health-tech company optimizing in-patient care through clinical automation. I am currently looking for industry opportunities in software engineering or data science for Summer 2023.

## Experience

### [Hero AI Inc.](#)

Co-Founder, Lead Frontend & UI/UX Developer

Toronto, ON  
Nov '19 – Oct '22

- **Server-Side Rendering:** Designed and created a full SS rendering library in React that ingests JSON schemas to produce interactive web and native components. This enabled us to deliver near real-time frontend software updates through a codeless development platform which is crucial in a healthcare setting.
- **Code Sharing:** Setup npm library to serve shared logic between web & native apps. Library services include data fetching & caching (RTK Query), global state management (Redux), sockets (Socket.IO), and memoization (re-select)
- **Tooling:** Setup pnpm monorepo workspace to facilitate local package linking. Replaced React CRA with Vite for faster build times. Setup CI/CD pipeline (Drone CI) for automated testing & building of web (Docker) and native apps (Fastlane)
- **UI/UX Design:** Designed Figma UI for all Hero AI apps and branding in consultation with key partners and end-users.
- **Communication:** Setup service for sending email, in-app, and push-notifications through Firebase. Implement in-app messaging and video conferencing support. These features were involved in informing hospital decision-making.
- **Management:** Responsible for hiring and training two frontend developers. Organized sprints, stand up meetings, and code reviews as part of our scrum strategy.
- **Results:** Deployed dashboards, mobile app, and web app to 80000+ yearly patient users and 5000+ hospital staff users

### [The Bagot Lab](#) @ McGill University

Student Research in Bioinformatics

Montreal, QC  
Nov '21 – Aug '22

- **scRNA-Seq:** Used Seurat & Scanpy to perform basic data preprocessing and visualization. Comparatively explored different clustering methods such as KNN, Louvain, NMF, and cNMF.
- **Pose Estimation:** Trained reliable pose estimation models for mice using DeepLabCut from top and side perspectives.

### The Hospital for Sick Children - SickKids

Data Science Intern

Toronto, ON  
Dec '17 – Nov '19

- **Forecasting Models:** Explored moving-average, linear-regression, and time-series models to forecast emergency room wait-times, patient inflow, and treatment capacity. ([See paper](#)) ([See code](#))
- **Modular Neural Network:** Developed screening model for pneumonia and UTI using hospital triage data. ([See paper](#))
- **ML Deployment:** Co-authored [paper](#) to review the design-to-deployment pipeline of ML solutions in a pediatric setting.

## Education

Aug '21 – May '24

### McGill University

B.S. Computer  
Science & Biology

GPA: 4.00

## Software

- JS & TypeScript
- ReactJS / Native
- Python
- Java
- C / C++
- OCaml

## Awards

- [Schulich Leader Scholarship '21](#)
- [Youth Can Innovate Award '19](#)
- 2<sup>nd</sup> @ Canada Wide Science Fair '19

## Languages

- English
- French
- Chinese
- Spanish A2

## Contact

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