Ankush Sarkar

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TECHNICAL SKILLS

Languages: Typescript, JavaScript, Python, SQL, C, HTML/CSS, Java, R, Haskell
Frameworks/Technologies: Stencil JS, RxJs, PixiJs, React Native (Expo), Vue (Nuxt JS), React (Next JS), Node, Three JS, TailwindCSS, Zod
Tools: Linux, Git, BaaS providers (Supabase, firebase), Sanity (Headless CMS)

WORK EXPERIENCE

Software Analyst Intern — May 2024 – Present
Hitachi Rails — *North York, ON*
- Collaborated in the development of a web-based Automatic Train Supervision (**ATS**) system, designed to assist train operators in monitoring and managing automated trains.
- Utilized **TypeScript** and worked with libraries such as **Zod** (for data interfacing), **PixiJs** (for webgl graphics programming) and **RxJs** (for making observables and subscriptions).
- Engaged in open-source contributions for **PixiJS**, specifically resolving a bug related to SVG asset loading.

Research Assistant — January 2024 – April 2024
McMaster University — *Hamilton, ON*
- Worked on algorithms for autonomous navigation of RC cars on predefined tracks, managing intersections and vehicle-to-vehicle communication.
- Utilized **Python** and **OpenCV** to process real-time sensor data, implementing solutions on **Raspberry Pi** devices.

PROJECTS

Habit Together(*Website* | *Code*)

- Working on a fullstack mobile app used for tracking habit with your friends. Users can create, track and join other peoples habits. Users can also nudge their friends to compleate their habit for the day.
- Built using **React Native** (**Expo**) for the native mobile app. We used **Firebase** for our backend needs. All of the app is written in **Typescript**. We also utilize libraries such as **Zustand** and **TanStack Query**.
- Led a team of 6 developers, spearheaded high-level architecture design.

Family Tree Visualizer (*App* | *Code*)

- Built a full-stack application that enables users to create, store, and visualize family trees with ease.
- Utilized technologies such as **Nuxt.js**, **Supabase**, **d3-org-chart**, and **Tailwind CSS** to deliver an amazing user experience.

Multiplayer Tic Tac Toe (*App* | *Code*)

- Real-time multiplayer Tic Tac Toe game built with **Vue.js** and **Flask-SocketIO**.

CLUB EXPERIENCE

Technical Team Member
DeltaHacks — *Hamilton, ON*
- Being part of the technical team, I was involved in the development of the landing page for the hackathon and maintaining the portal website, which handle over **4000** applications.

EDUCATION

McMaster University — Hamilton, ON
B.A.Sc. Computer Science CO-OP — *2021 - 2025*

Deans Honours List - Present
Relevant Courses
    COMPSCI 3SH3 *Operating Systems* **(A+)**
    COMPSCI 2C03 *Data Stuctures and Algorithms* **(A+)**
    COMPSCI 2DB3 *Databases* **(A+)**

OTHER ACHIEVEMENTS

- Won the **MedX Challenge** at **DeltahacksHacks X** for developing **tAIket**, an AI-powered ticket management system.
- Won **Most Innovative Use of the Verbwire API** at **DeltahacksHacks IX** for **DiGiDegree**, a blockchain-based online course certification authentication prototype.