Gabriel Ethan Vainer

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EDUCATION

University of Toronto   Toronto, CAN
Bachelors in Computer Science; Software Engineering Stream   *Sep. 2020 – Dec. 2024*
Awards: *2021 Dean's List, University of Toronto Entrance Scholarship*

EXPERIENCE

Software Developer Intern   Apr. 2022 – Present
Empyrean Medical Systems   *Florida, USA*
- Created a **C# Controller API** for real-time system updates on **DWIN DGUSII LCM** displays by utilizing the **.NET SerialPort** library for implementing secure packet transmission and validation protocols.
- Integrated **Dose Calculation Algorithms** and **TCP/IP** socket protocols into Empyrean's Dosimetry Engine in **C**, optimizing **voxel-based radiation transport simulations** for Radiology equipment.
- Reduced the engine codebase by **64%** through modular refactoring while maintaining functionality, responsibility, and clean architecture.

Software Engineer Intern   Jan. 2022 – Apr. 2022
Royal Bank of Canada   *Toronto, CAN*
- Developed **microservices** in RBC's Client Systems application for the **Retail Banking Payments Technology & Integrations Lab**, enhancing **Input Validation, Schema Validation**, and **Compliance Enforcement** features for the File Management and User Compliance APIs using the **Spring Core Framework**.
- Utilized the **Cucumber Framework** to implement end-to-end application test cases with a **BDD** approach to validate the performance and functionality of the client system.
- Authored detailed documentation in **Confluence**, including setup steps and architecture overviews, to help new developers onboard and navigate the API Lab workspace.

Frontend Developer   Jan. 2023 - Apr. 2023
Taichi Graphics   *Toronto, CAN*
- Engineered Taichi's internal technical documentation frontend using **React** and **Docusaurus**, streamlining developer engagement and project onboarding for the open-source community.

Teaching Assistant   Jan. 2023 - Present
University of Toronto, **CSCA08***(Winter 23', Winter 24', Fall 24'),* **CSCD03***(Fall 23')*   *Toronto, CAN*
- Facilitated student learning and engagement as a lecture TA for an introductory course on procedural programming in **Python** and taught core computer science topics including **Sorting Algorithms**, **Complexity**, and **Testing**

PROJECTS

UofT Blueprint | *Typescript, React, Next.js, Firebase*
- Led a team of 4 developers in architecting and implementing UofT Blueprint's website redesign and a custom CRM solution using **TypeScript**, **React**, **Next.js**, and **Firebase**, applying **Agile principles** for efficient sprint planning and task distribution.

deChess | *ETHGlobal Hackathon, ReactJS, Javascript, Chessground*
- Contributed to a **peer-to-peer chess platform** and chat system using **React** and js-waku which won over **$6000** from 5 sponsors.

System Monitoring Tool | *C, Bash, Linux*
- Designed and deployed a high-accuracy Linux system monitoring tool in C, providing dynamic, real-time analysis of system metrics with a user-friendly CLI, advanced security features, and customizable graphical reporting.

TECHNICAL SKILLS

Languages: Python, C, C++, C#, Java, JavaScript, Typescript HTML, CSS, SQL, Haskell
Frameworks and Databases: React, Django, Mongo, Spring, Cucumber, MySQL, Firebase, Next.js
Environments and Tools: Linux/UNIX, Maven, Selenium, Git, Node.js, Material UI, Postman, JUnit, Jira