

Gabriel Ethan Vainer

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EDUCATION

University of Toronto

Bachelors in Computer Science; Software Engineering Stream

Toronto, CAN

Sep. 2020 – Apr. 2024

Awards: *2021 Dean's List, University of Toronto Entrance Scholarship*

EXPERIENCE

Teaching Assistant

University of Toronto

Jan. 2023 - Present

Toronto, CAN

- Facilitated student learning and engagement as a lecture TA for **CSCA08**, an introductory course on procedural programming in **Python** and core computer science topics including **Algorithms** and **Complexity**

Frontend Developer

Taichi Graphics

Nov. 2022 - Feb. 2023

Toronto, CAN

- Crafted Taichi's sleek technical documentation frontend using React and Docusaurus, streamlining developer engagement and project setup for the open-source community.

Software Developer Intern

Empyrean Medical Systems

Apr. 2022 – Mar. 2022

Miami, USA

- Engineered a robust overhaul of Empyrean's **Dosimetry Calculation Engine** using **C**, integrating complex algorithms for dose calculation and voxel interpolation which enhanced precision in estimating effective ionizing radiation exposure for Interventional Radiology equipment
- Architected and deployed robust **TCP/IP** socket communication protocols within the system which streamlined real-time data exchange between users and IR equipment, elevating operational efficiency and reliability
- Transformed the original engine into a well-structured, non-monolithic system, reducing the main engine file by **64%** while maintaining functionality, responsibility, and clean architecture.

Software Engineer Intern

Royal Bank of Canada

Jan. 2022 – Apr. 2022

Toronto, CAN

- Utilized **Java**, **Maven**, **Postman**, **Git**, and **Spring** to implement new Microservice backend features for the Featured File Scenario and Profile Compliance APIs within RBC's client systems application
- Implemented comprehensive end-to-end test cases using the **Cucumber Framework** to ensure the reliability, functionality, and performance of critical software systems.

PROJECTS

Open Source Development | *Pandas, Cython, Python*

- Led optimization of Pandas' **DataFrame.corr()**, introducing a Cython-based multi-threaded approach with a 'parallelize' option, significantly speeding up **Spearman** and **Pearson** calculations without accuracy loss.

deChess | *ETHGlobal Hackathon, ReactJS, Javascript, Chessground*

- Co-developed a P2P chess platform with NFT pieces 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.

Promedio | *Mongo DB, Express.js, ReactJS, Node.js*

- Built a website with **MERN** stack to help **400+** students track their cGPA and reduced academic calculation time from **4 minutes** to **2 seconds**

BookMeBot | *Python, Javascript, Node.js, Selenium, Git, MySQL*

- Developed a **booking automation API** using **Selenium** and **Python** for a chat bot that allows users to quickly book multiple gym times in advance (via Discord and Facebook Messenger) without authentication.

TECHNICAL SKILLS

Languages: Python, C, Java, JavaScript, HTML, CSS, SQL

Frameworks and Databases: React, Django, Mongo DB Spring, Cucumber, MySQL, Firebase Realtime

Environments and Tools: Linux/UNIX, Maven, Selenium, Git, Node.js, Material UI, Postman, JUnit, Jira, WordPress