Aditya Rao

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https://github.com/adityarao2005 | https://adityarao-portfolio.vercel.app

Education

McMaster University Hamilton, ON, CA
Bachelors of Software Engineering, GPA: 4.0 *Sept. 2023 – Present*
Awards: Faculty of Engineering Scholarship

Bur Oak Secondary School Markham, ON, CA
Graduated with Honors *Sept. 2019 – June 2023*
Awards: Distinction in Euclid Contest, Distinction in Canadian Computing Contest, Distinction in Canadian Senior Math Contest

Skills

Languages: Java, Python, SQL (MySQL, PostgreSQL), .NET Framework, C/C++, JavaScript/TypeScript
Frameworks: Spring Boot, Hibernate, React, Express, Next.js, Flask, UWP, Mongoose, Django, ASP.NET Core
Developer Tools: Eclipse, VS Code, Visual Studio, Git, Android Studio, Figma, Unity, MongoDB
Libraries: Google Cloud Platform, Pandas, TensorFlow, SciKit Learn, JQuery, Bootstrap, TailwindCSS

Experience

Team Innovoak May 2023 – August 2023
Founder

- Founded and led InnovOak, a team of diverse undergraduates from top universities dedicated to developing impactful tools.
- Led development of a gamified fitness app, using **Android** and **MySQL/Servlets** targeted towards youth.
- Acted as Project Manager and Senior Developer, guiding the team in a professional, large-scale application development environment.
- Engineered a **microservices**-based architecture with **REST** for efficient **data-driven** operations.

FIRST Robotics Team 9113 Jan 2023 – May 2023
Software Team Lead

- Led my high school's robotics team as the **software team lead** at the FRC 2023 competition.
- Utilized **Java & WPLib** to develop a fully functional robot capable of driving, picking up cones and cubes, and balancing on a moving platform using a gyroscope using **embedded programming** principles.
- Secured the **Rookie All-Star Award** and **Rookie Inspiration Award** at the FRC Competitions held at Newmarket and Western University.

Projects

Portfolio & Dashboard Management | *Next.js, TailwindCSS, Express, MongoDB, Vercel* Dec 2023 – Mar 2024

- Developed a portfolio which hosts both my projects and my art and developed a dashboard to manage them
- Allowed for automation of management of projects, art and messages saving around 50% user time
- Initially hosted on Github Pages but then changes to Vercel Cloud for backend and Blob Support

QuakeGuard | *Next.js, React, Flask, Python, TensorFlow, Pandas, GCP* Jan 2024

- Developed an earthquake prediction app for DeltaHacks X, using Next.js, Flask, and Machine Learning.
- Commenced model development with SciKit Learn, later transitioning to TensorFlow & Keras's Neural Network implementation, culminating in a 90% accuracy in predicting earthquakes with a magnitude of 5 and above
- Used Maps API for Geocoding to highlight high-risk areas and implemented Google Pay for donation management.
- Invited to GDSC McMaster's Solutions Challenge Hackathon for the enhancement and refinement of our product.

AutoCode Framework | *Core Java* Jun 2023 – Present

- Creating a versatile framework to streamline the development of various projects.
- Developing specialized utilities for Systems Architecture, spanning from Web and AI to Game Development.
- Currently crafted an IoC container and a Mathematical Expressions and Evaluating Framework
- Advancing the framework by incorporating web server and integrating API support, with ongoing efforts to seamlessly mesh these capabilities with complementary tools.

Task Management and Scheduling App | *Java, JavaFX, Google Classroom API* May 2023 – Jun 2023

- Developed an enterprise-grade calendar tailored for efficient task management and daily organization for both students and employees.
- Features include event creation, integration with Google Classroom events, sub-task management, reminder, and alert systems, and a Pomodoro system for task completion.

Big Data Visualization Tool | *Java, Swing, JFreeChart* Apr 2023 – May 2023

- Developed a tool that scrapes demographic data from Ontario's Open Data datasets and allows the client to visualize and model the data and trends within
- Features include data visualization, data filtering, data prediction and extrapolation, splash screen, and help screen, modeling data related to birth, death, employment, and marriage.

Ticket To Ride: Canada Version | Java, Swing, Graph Theory Mar 2023 – Apr 2023

- Developed an virtual version of Ticket to Ride based on popular Canadian cities
- Allowed for multiple players and developed an intelligent bot based on Graph Theory principles

Ninjigma: The Puzzle Game | C#, UWP, Graph Theory May 2022 – Jun 2022

- Developed an image scrambler/puzzle game using C# and UWP with multiple difficulties
- Allows image upload from multiple means such as file system, web, drag and drop
- Game logic is to chop image into pieces, scramble them, and then have the player unscramble them

Sample Ecommerce App | *Java, Spring, Hibernate, PostgreSQL, JQuery, Git* Dec 2021 – Jan 2022

- Designed an e-commerce app template for local businesses, emphasizing systems and server-side development.
- Utilized Spring and Hibernate for the backend, incorporating Stripe for payments and Gmail API for automated email management.
- Implemented key features including user authentication, employee and product management, notifications, and various other functionalities.

SFML Game Engine | *C++, SFML, Visual Studio, Git* May 2021 – Aug 2021

- Developed a GameEngine in C++ using SFML, managed with Visual Studio and GitHub for version control.
- Converted and deployed a sharpshooter game from C# to C++, showcasing adaptability in language transition within the game development framework.

Endless Runner | *C#, Unity3D, Visual Studio* Dec 2020 – Apr 2021

- Developed a side-scrolling game using Unity3D and C# similar to Temple Run
- Explored key concepts within Game Design, Systems Architecture, and Object Oriented Programming using C#