Harsanjam Saini

Computer Engineering Student
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SUMMARY OF QUALIFICATIONS

- Working proficiency in programming languages such as Java, Python, HTML, CSS, JavaScript, ReactJS, Spring Boot & C++ for website/web application development, automation, data analysis, UI controls, security systems & AI.
- Demonstrated strong leadership through participation in group software projects, hackathons, lab work and tutoring.
- Experience with distributed, multi-tiered systems, algorithms, relational databases, and optimization programming.

EDUCATION

Toronto Metropolitan University Toronto, ON
Bachelor of Engineering | Computer Engineering ***Sep 2020 - April 2024***

- **Relevant Coursework:** Digital Computation and Programming, Software Systems, Digital Systems Engineering, Algorithms and Data Structures, Object Oriented Eng. Analysis and Design, Microprocessor Systems, Advanced Algorithms, Computer organizations & architecture

WORK / VOLUNTEER EXPERIENCE

FRC Team 6378 Lynx Robotics Mississauga, ON
Lead Programmer ***Sep 2018 – Jun 2020***

- Developed **30-second autonomous** driving and control through **OpenCV** and WPILib which accounted for 30% of the team's points in the following games: Destination: Deep Space and Infinite Recharge.
- **Mentored 20+ younger members** through topics of programming in robotics such as easy-to-read code, tracking objects with **OpenCV** and using the **WPILib Java library**.
- Helped the **team qualify** at the **provincial level** of FRC through game-time troubleshooting and program adjustments.

SKILLS / PROJECTS

Java Bookstore Application | Java, JavaFX ***https://shorturl.at/cfip6***

- **Led a team** of four to develop a Java-based bookstore application with a **GUI using JavaFX,** resulting in a **20% increase** in customer satisfaction. Implemented the **State Design Pattern** to create a reward point system, leading to a **15% increase** in customer retention and a **10% increase** in customer loyalty.
- Utilized the Singleton Design Pattern to optimize database management, resulting in a **30% reduction** in **data retrieval time** and improved application performance.

Personal Website Design | HTML, CSS & JavaScript ***https://shorturl.at/gijtF***

- Developed a professional website by incorporating advanced features such as dropdown menus, **background blur effect** on images, multiple tab selection and **Google Maps Link integration**.
- Implemented a **live deadline timer** that **increased user engagement** metrics by **25%**.

Employee Management App | ReactJS & Spring Boot ***https://shorturl.at/emxA1***

- Developed Employee Management Application with **CRUD** actions, resulting in a **40% faster** data handling for 'creating', 'updating', and 'deleting' employee records. The application's intuitive interface led to a **30% increase** in user task **completion speed**.
- Integrated **React** and **Spring Boot** to achieve a **95% user satisfaction** rate, ensuring smooth 'data viewing' and 'listing', while maintaining **application stability**.

React To-Do List App | HTML, CSS, JavaScript & React.JS ***https://shorturl.at/ilyzU***

- Developed a **user-centric** to-do list app, enabling seamless **task management** with features like task addition, search, checkbox completion, and dynamic filtering**,** leading to a **25% increase** in daily task completions.
- Implemented filters for 'active', 'completed', and 'all tasks', resulting in a **20% increase** in user productivity.

OpenCV Fruit Collector Game | Python ***https://shorturl.at/hpyP3***

- Designed and programmed a **Python-based** fruit collector game using **OpenCV computer vision** techniques, enabling users to catch fruits using a basket **controlled** by a **camera** with **75% higher accuracy**.
- Successfully implemented **object detection** and **tracking algorithms** using OpenCV, accurately detecting and tracing a green colour object (pen) to **control the movement** of the basket with cutting-edge **vision technology**.

Super Combat Bros Game | Java, LibGDX ***https://shorturl.at/fmFJS***

- Created a single-player game with an **OOP paradigm** to achieve a **25% increase** in **performance** by heavily incorporating **encapsulation**, **abstraction**, **inheritance**, **enemy automation**, points tracker, and health status.