Shubham Aggarwal

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EDUCATION

Schulich School of Engineering, University of Calgary   Sept 2020 - Present
Bachelor of Sciences - Software Engineering | Minor in Aerospace Engineering | Dean's List (2020-21)

SKILLS

Programming: Java, JavaScript, C, C++, Python, SQL, HTML, CSS, MIPS32/64.
Frameworks: React.js, Express, Junit, Node.js, Springboot.
Tools and Libraries: MySQL, Git, Pandas, NumPy, MPLAB.
Others: AutoCAD, SolidWorks, MATLAB, OpenVSP, MS Office Suite, XFLR5.

ENGINEERING PROJECTS

Airline Reservation System | Java, MySQL
- Group project of an object-oriented Java application for an Airline Reservation Company which allows the clients to reserve and book flights displaying best and cost-efficient route options to the clients.
- The SQL and java-based project allows modification of flight and admin-database allowing to add up to 10 employees.

Hospital Management System | HTML, CSS, Bootstrap, JavaScript, Node.js, MySQL
- Utilizes HTML, CSS, Bootstrap, JavaScript, Node.js, and MySQL for efficient management of hospital operations.
- Allows administrators to manage clinic materials and operations, enables patients to book appointments and access records, and tracks doctors and staff.
- Includes case retrieval for medical reference and supports comprehensive user registration.

3D Model of a RC Plane | AutoCAD, SolidWorks, OpenVSP, XFLR5
- Designed and 3D printed a lightweight RC plane using AutoCAD, SolidWorks, and OpenVSP, conducting wind-tunnel tests and optimizing for aerodynamic efficiency. Selected NACA 00012-63 airfoil after extensive XFLR5 simulations, ensuring optimal lift and stability for under 250 grams total weight.
- Managed complete design process, including stability considerations and control surface sizing, utilizing lightweight PLA material and innovative manufacturing techniques to meet stringent weight and structural requirements.

CPU Scheduling Simulator | C++
- Developed a C++ program which simulates round-robin CPU scheduling algorithm and reads an input consisting of setoff processes and a time slice, where every process is described by an id, arrival time and CPU burst.
- This program simulates Round Robin scheduling and calculate start and finish time of every process along with condensed sequence of all the processes.

Police Dashboard Simulator | C, MPLAB, PIC24F
- Developed a police car dashboard simulator using PIC24F16KA101 Nano-watt Microcontroller, integrating ADC, timer delays, Idle mode, Watch Dog Timer, and UART Terminal to mimic police car functionalities including speed display and turn signals.
- Implemented a comprehensive system with interactive components such as pushbuttons, LEDs, potentiometer, and UART/USB interface, enabling realistic simulations of car operations, power-saving features, and emergency signaling.

WORK EXPERIENCE

Line Chef | Joey's Restaurant   June 2022 – Present | Calgary, Canada
- Ensuring top-notch food quality and efficient kitchen operations, excels in preparing enticing entrees and appetizers.

Cap3 Associate | Walmart Superstore   May 2022 – Aug 2022 | Calgary, Canada
- Specialized in efficient restocking and organization, contributing to an enhanced shopping experience.

Crew Member | Popeyes Louisiana Kitchen   May 2021 - April 2022 | Calgary, Canada
- Skilled in both kitchen duties and cashier tasks, ensuring quality food and efficient customer service.

LEADERSHIP AND VOLUNTEER

Secretary | Dance Central Club, University of Calgary   Aug 2022 – Oct 2023
- Led a dance club that promotes India's diversity and Ethnicity. Collaborated with clubs to organize vast events.
- Responsible for marketing and overseeing organization of weekly rehearsals.

Mentor | Schulich Student Mentorship Program, University of Calgary   Aug 2022 – Jan 2023
- Built positive connections with first year engineering undergraduate students and helped them navigate the resources and the opportunities available at the University of Calgary.