GURMUKH KHAROD

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EDUCATION

BSc. Computer Science – Software Systems May 2022 – Present
- Simon Fraser University, Burnaby, B.C.

Diploma in Computer Science and Information Systems Sep 2018 – Sep 2021
- Douglas College, New Westminster, B.C.

TECHNICAL SKILLS

Software Programming Technologies:
- OOP Languages – Java, C, C++, C#, JavaScript, Python, Haskell, Rust
- Web Development – ReactJS, NodeJS, NextJS, ExpressJS, HTML5, CSS3
- Relational DBMS with MySQL, SQLite, and PostgreSQL. NoSQL with MongoDB.
- Additional – APIs, JSON, Version Control Software, Virtual Machines, Unit Testing.
- Operating Systems – Windows 10/11, MacOS X, Linux Ubuntu, Unix.

Development Environments:
- Android Studio - Java to create complex, multi-stage mobile applications.
- VS Code - JavaScript and HTML/CSS to design full-stack web applications.
- IntelliJ - Java to configure APIs and manage server-side applications.
- RobotC - C to develop software that allows robots to complete objectives.
- Visual Studio IDE - C# to construct advanced Windows desktop applications.
- Jupyter - Python for data analysis, statistics testing, and AI modeling.

EMPLOYMENT EXPERIENCE

Product Tester Oct 2021 – May 2022
Best Buy Distribution Center, Langley, B.C.
- Collaborated with an 8-member team, to manage Western Canada's inflow of over 150 new television and monitor units daily, ensuring a smooth distribution process.
- Incorporated problem-solving skills and technical knowledge to efficiently debug software-based issues on electronic products, to restore them to a sellable state.
- Leveraged technical expertise and problem-solving skills to optimize testing workflows, minimizing product downtime while maintaining high-quality standards.
- Directed 20 non-sellable products to departments responsible for recycling, storage, and part replacement on a daily basis, ensuring proper handling of unsellable units.

PROJECT EXPERIENCE

Dynamic Social Gaming Platform Service Sep 2024 – Dec 2024
Software Development Methods, SFU

- Collaborated with 6 team members, to implement a multi-stage C++ application that utilizes API and OOP design patterns, to parse JSON files and manage an unlimited number of active users and server hosted game sessions.
- Utilized Git for version control, managing weekly iterations to complete over 70 issues across 150 branches, ensuring efficient teamwork and an organized workflow.
- Developed robust server-side APIs, for parsing JSON game specifications into 12 actionable components, allowing for dynamic game session management.
- Implemented 7 client-side operations to connect to APIs, to enable user interactions for creating, joining, and managing game sessions via a terminal-based interface.
- Designed 50 comprehensive unit tests using Google Test, to ensure code reliability and correctness across server and client components.

Package Management Server-Side Application May 2022 – Aug 2022
Object Oriented Design in Java, SFU

- Incorporated Java OOP concepts through a Factory Design Pattern, which dynamically creates objects to be manipulated and stored during runtime.
- Modelled UML and Use Case Diagrams, which accurately show the relationships between each java class and how the program operates.
- Developed a Web Server using the Java Spring Boot Framework, to create an API that allows the manipulation of JSON Objects.
- Converted Java Objects into JSON using GSON, so that objects generated during runtime can be stored both locally and on a web server.

VOLUNTEER EXPERIENCE

Lead Programmer on High school Robotics FRC Team May 2017 – Jul 2018
North Surrey Secondary School, Surrey, B.C.

- Served as Lead Programmer for the 2018 FIRST Robotics Competition (FRC) year, collaborating with software and hardware teams to build a competition-ready robot.
- Participated at the Canadian Pacific Regional Competition – Victoria, B.C.
- Competed in the FIRST Championship – Houston, Texas.

Mentorship Program Jun 2017 – Dec 2017
North Surrey Secondary School, Surrey, B.C.

- Volunteered in hosting the 2017 FIRST Lego League (FLL) and FLL Jr. competition.
- Guided 20, grade 8 students, over several weeks, in how to use robotics systems such as VEX IQ robots in a series of engaging competitive-based tasks.
- Mentored several, grade 3 students, on how to interact with robotics using VEX Lego Mindstorm kits, to solve real-world problems such as water preservation.