KANWALJOT SINGH

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3rd-year Computer Programming & Analysis student skilled in building scalable full-stack applications. Passionate about applying software engineering best practices to deliver impactful, user-focused solutions.

Skills

- **Languages:** Java, Python, JavaScript, TypeScript, C, C++, C#, SQL, Oracle, HTML, CSS
- **Frameworks:** React.js, Next.js, Express.js, Tailwind CSS, Bootstrap
- **Tools & Platforms:** Docker, Git/GitHub, Turborepo, Firebase, MongoDB, PostgreSQL, Jira, Unix command line, Bash scripting
- **Concepts:** OOP, Data Structures, Algorithms, API Design, Async Programming, Agile & Scrum practices

Education

Seneca Polytechnic (Sept 2023 - Present)

- Computer Programming and Analysis ***(GPA- 3.6)***

Projects

Serenity | *React.js, Node.js, Firebase Firestore, WebSockets, JavaScript, CSS*

- Built a **social music streaming platform**. with real-time group listening and chat features, supporting synchronized playback for multiple users.
- Engineered **real-time social features**, including synchronized song playback ("*Listening Party*") and interactive group chats, using Firebase Firestore and WebSockets.
- Implemented intuitive **UI/UX components**, enabling users to create groups, share playlists, and engage socially, demonstrating expertise in **responsive interface design**.
- Optimized frontend–backend communication through **efficient API design and asynchronous programming**, ensuring smooth data flow.

Flopay | *Next.js, TypeScript, Prisma, PostgreSQL, Docker, CI/CD, Turborepo*

- Developed **Flopay**, a wallet application enabling users to onramp money from bank accounts by implementing a bank mock server and webhook integration for real-time transaction confirmation.
- Engineered a **merchant application** within the monorepo, integrating the wallet for seamless payment processing, user discounts, and merchant-side inventory, sales, and revenue management.
- Designed and implemented **file persistence** mechanisms to reliably store and retrieve data across sessions.
- Optimized development workflows and deployment using a **monorepo architecture** with Docker, CI/CD pipelines, and Turborepo.

Assembly Line Simulator | *C++, Object-Oriented Programming, Template Programming, File Persistence*

- **Developed** a modular assembly line simulator in C++, modeling multi-stage workflows to manage order processing across sequential workstations.
- **Implemented** robust **file persistence** functionality to reliably save and retrieve order data, ensuring continuity across sessions.
- **Applied** key **OOP principles** (*inheritance, polymorphism, encapsulation*) and template programming to enhance code efficiency, scalability, and maintainability.
- **Engineered** algorithms for **queue management** and **resource allocation**, optimizing inventory usage, minimizing bottlenecks, and improving overall workflow efficiency.

Experience

Volunteer Tutor | Seneca Polytechnic (Sept 2024 - May 2025)

- Volunteered as part of a student group to solve coding problems and assist peers in **C, C++, JavaScript, HTML, and CSS**.
- Supported classmates with understanding programming concepts and offered guidance on study strategies for academic success.