

# Manroj Gill

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## Education

### University of Alberta

Computer Engineering, BSc Co-op

Edmonton, Alberta

Sept 2023 — April 2028

### Relevant Coursework:

- **Programming:** Object-Oriented Software Design, Introduction to File and Database Management, Introduction to Tangible Computing I & II
- **Hardware:** Electronic Devices, Computer Organization and Architecture, Introduction to Microprocessors, Electrical Circuits I & II

## Projects

### VoltCart | React, JavaScript, Tailwind CSS, React Router

- Developed a modern e-commerce frontend with a responsive, multi-page storefront for electronic components.
- Built dynamic product pages with route-based rendering, reusable components, and global state management using React Context.
- Implemented cart, checkout, and order interfaces with real-time price calculations, quantity updates, and conditional rendering.
- Designed category-based filtering, search, and sorting logic to support scalable product collections.
- Structured the application to support future backend integration, including authentication and persistent data storage.

### Quizzical | React, JavaScript, Open Trivia Database API

- Built an interactive quiz app with dynamic state management (useState, useEffect) and multiple game states (start, play, results).
- Integrated the Open Trivia Database API with custom parameters (difficulty, type, amount) to generate randomized quizzes.
- Implemented automatic scoring, styled feedback for correct/incorrect answers, and replay functionality to enhance user experience

### Assembly Endgame | React, JavaScript

- Designed a word-guessing game with 8 attempts, removing one programming language per incorrect guess until only Assembly remains.
- Added interactive features including unique loss messages for each language, conditional UI styling with clsx, confetti animations, a win state, and a “New Game” reset option to enhance user experience.

## Experience

### Software Team Member, AlbertaLoop — Edmonton, Alberta

Sept 2025 — Dec 2025

- Contributed to software development for pod control by assisting with Finite State Machine (FSM) design and basic fault-handling logic.
- Used Python to complete small computer vision tasks related to track fault detection and perception
- Assisted with setup, testing, and debugging of Raspberry Pi-based systems used in software prototyping.
- Collaborated with team members to understand system behavior, software structure, and integration challenges in a multi-component project.

### Document Control Assistant, 1717616 ALBERTA LTD — Edmonton, Alberta

Mar 2022 — Aug 2024

- Managed and organized high-volume records with a focus on accuracy, version control, and efficient information retrieval
- Coordinated cross-team documentation workflows and produced clear, reliable reports while handling sensitive data securely

## Skills

**Languages:** JavaScript, Java, Python, C/C++, SQL, ARM Assembly

**Frameworks & Libraries:** React.js, Node.js, Express.js

**Developer & Technical Tools:** Visual Studio Code, GitHub, LTspice, WaveForms, MATLAB, Excel, Word