

Amar Koonar

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TECHNICAL SKILLS

Languages: PowerShell, JavaScript, TypeScript, HTML/CSS, Java, Python, C, C++, SQL (PostgreSQL)

Frameworks: React.js, Next.js, Node.js, ExpressJs, Socket.io, Angular, Tailwind

Developer Tools: VS Code, Neovim, Docker, AWS, MongoDB, Cypress, Git, GitHub, Mocha, Vite, Slack

Transferable Skills: Problem-solving, teamwork, communication, time management, adaptability

PERSONAL PROJECTS

Posture Detection App | *Flask, MediaPipe, PyWebview, PyWebview, PyInstaller*

- Built a Python application using MediaPipe to detect and correct sitting posture in real-time using webcam input.
- Implemented coordinate tracking logic to highlight posture alignment and issue warnings for slouching.

ThinkForge | *Next.js, Tailwind, React, OpenAI API, JavaScript*

- Built a dynamic quiz-generation website using and OpenAI API to help users study more effectively.
- Created a CI/CD pipeline that ensured fast deployment and previewing
- Used serverless API routes to generate questions in real-time based on user-selected topics and difficulty.

MapReduce Multi-threaded Framework | *C, POSIX threads*

- Implemented a simplified MapReduce Framework in C using POSIX threads to perform parallel data processing.
- Designed thread-safe data structures to coordinate map and reduce phases efficiently.
- Improved runtime performance on large text files by distributing tasks across multiple worker threads.

Pokémon Library | *React, Vite, Bootstrap, Modular CSS, JavaScript*

- Developed a responsive Pokédex-style web application to explore and experiment with modern UI concepts.
- Used Bootstrap 5 and modular CSS for a clean, interactive card-based layout with dynamic styling based on Pokémon types.
- Built with Vite for fast development and optimized production builds; optionally consumes PokéAPI for dynamic data.

EXPERIENCE

Calc Connect Peer Mentor

Dec. 2024 – Present

Simon Fraser University

Burnaby, BC

- Facilitated group-based learning sessions to support students in mastering core calculus concepts such as limits, derivatives, and integrals.
- Promoted collaborative problem-solving and mathematical reasoning by guiding students through example problems and peer discussions.

Computer Science Peer Tutor

Dec. 2024 – Present

Simon Fraser University

Burnaby, BC

- Supported students in understanding foundational computer science topics such as recursion, data structures, and algorithm design.
- Simplified complex programming concepts by breaking them down into approachable steps and providing real-world examples.

RELEVANT COURSEWORK

CMPT 225 - Data Structures & Programming

- Implemented and analyzed linked lists, stacks, queues, trees, AVL trees, and hash maps.
- Practiced object-oriented design, memory management, and debugging in C++.

CMPT 201 - Systems Programming

- Explored process management, file systems, concurrency, and threading.
- Implemented network communication using TCP and UDP sockets in C, demonstrating proficiency in socket programming and client-server architecture.

EDUCATION

Bachelor of Science in Computer Science

Sept. 2023 – Present

Simon Fraser University

Burnaby, BC