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EDUCATION

Simon Fraser University, Burnaby

Bachelors of Applied Science, Computer Engineering
2022 – 2026 (Expected)

Skills Developed: Proficiency in C++, Python, AI modeling, algorithm development, and collaborative research methodologies.

SKILLS

Software:

- Programming Languages: **C++, Python, RISC-V, HTML, JS, Swift**
- Algorithms & Data Structures: Proficient in **sorting, searching, trees, and graph structures**
- Software Development: Experience in **OOP**, memory management, multi-threading
- **MATLAB**: Numerical analysis, system simulations, data visualization
- Excel: Advanced proficiency in **data manipulation, complex formulas**, macro development for automation
- **Linux**: System development, shell scripting, embedded Linux environments

Hardware:

- Lab Equipment: Skilled in using **oscilloscopes, multimeters**, power supplies
- **Engineering Drawings**: Competent in interpreting and creating detailed designs for manufacturing
- **Circuit Design**: Efficient in building complex circuits on breadboards
- **PCB Design**: Expertise in troubleshooting, designing, and soldering micro-components
- **CAD Software**: Proficient with AutoCAD and Fusion360 for 2D & 3D modeling

Additional Skills:

- **Project Management**: Knowledge of tools like Suretrak and Microsoft Project
- Version Control: Experience with **Git** for collaborative development
- **Team Collaboration**: Proven ability to contribute effectively in team dynamics
- **Problem-Solving**: Strong analytical thinking and innovative approach to challenges

COURSEWORK

- Data Structures and Algorithms
- Microprocessor Architecture and Operation
- Developing IOS Apps
- Machine Learning
- Engineering Measurement and Data Analysis
- Project Management
- Linear Algebra
- Differential Equations
- Robotics: Mechanical Design

PROJECT EXPERIENCE

AI-Calculator

Python | Sept 2024 – Oct 2024

- A simple AI-based calculator that understands natural language inputs and performs basic arithmetic operations like addition, subtraction, multiplication, and division.
- The project is built using Python and utilizes Natural Language Processing (NLP) to interpret user input.

Electricity Consumption Data Analysis

SQLite, Python | Sept 2024

- Designed and implemented a database using SQLite to manage and analyze electricity consumption data.
- Simulated large datasets in Python to model electricity usage trends.
- **Visualized data in Excel** to gain insights into consumption patterns.
- Applied SQL for complex queries and data manipulation, demonstrating problem-solving and analytical skills.
- Showcased ability to handle large datasets and extract meaningful insights.

Weather App in IOS17

Swift, API integration | April 2024 – June 2024

- Developed a weather app in Swift using the OpenWeather API for real-time weather data.
- Implemented features like location-based weather and 7-day forecasts.
- Integrated a user-friendly interface for improved usability.
- Applied iOS development best practices for robust app performance.

Dictionary Application using Binary Search Tree (BST)

C++, ADT | Jan 2024 – Mar 2024

- Implemented a dictionary application using a Binary Search Tree (BST) in C++ for efficient word storage and retrieval.
- Developed a custom Word class to support dictionary operations like addition, deletion, and search.
- Applied sorting and searching algorithms for optimized data manipulation.
- Leveraged object-oriented programming principles for clean code organization and modularity.

Digital Dice Roller using Altera FPGA

VHDL, FPGA | Oct 2023 – Dec 2023

- Developed a digital dice roller using Altera FPGA, with LED, 7-segment, and LCD display integration.
- Applied FPGA programming and VHDL skills to design and implement the hardware logic.

Arduino-Based Morse Code Coder and Decoder

Arduino, C | Oct 2023 – Dec 2023

- Developed a Morse code coder and decoder using an Arduino microcontroller, combining hardware and software skills from ENSC 220.
- Implemented an efficient system for Morse code translation through precise coding techniques.
- Integrated and assembled intricate hardware components for accurate circuit functionality

Mini AM Radio Receiver on Breadboard

Circuit Design, Soldering | April 2023 – Sept 2023

- Designed and built a small-scale AM radio receiver on a breadboard.
- Developed RF signal reception and tuning circuits to capture radio frequencies.
- Implemented demodulation techniques to extract audio signals from RF waves.
- Integrated audio amplification for clear and audible sound output.
- Successfully tuned and played back radio stations, demonstrating full functionality.