Nimrat Gill

Richmond, BC | LinkedIn | (604) 704-9992 | gillnmrt@gmail.com | portfolio

RELEVANT WORK EXPERIENCE

Fems in Stem **Online**
Web Developer | contract *Dec 2024 - Present*

- Built and hosted Fems in STEM's website on **WordPress**, leveraging **Elementor** and custom **HTML/CSS** ensuring **responsive design** to deliver a user-friendly platform.
- Developed a "Become a Member" form using **JavaScript**, streamlining the member registration process and enhancing user engagement.
- Conducted regular technical maintenance to ensure optimal website performance and reliability for a growing user base.

SFU Nano device fabrication group **Burnaby, BC**
Research Assistant *May 2021 - Dec 2021*

- Conducted noise-to-signal ratio experiments for a nanotech rapid diagnostic detector, identifying and resolving software-related noise issues, achieving a 40% noise reduction.
- Enhanced testing accuracy and efficiency by developing **Python-based software tools**, enabling seamless **data acquisition and analysis**.
- Collaborated cross-functionally to optimize hardware-software integration, ensuring reliable device performance and reducing external interference.

PROJECTS

KinetiScan **Vancouver, BC**
Brainstation Capstone Project *Oct 2024*

- Developed a joint movement tracking app using **React, Node.js, MediaPipe**, and computer vision to deliver real-time analysis and range of motion feedback.
- Implemented a secure sign-in system and personalized goal-setting features, empowering users to customize their recovery plans.
- Built a progress tracking system with visualizations to monitor user data and measure recovery over time, enhancing engagement and outcomes by implementing backend **API** calls.

TravelBuddy - Autonomous Luggage Carrier **Burnaby, BC**
SFU Engineering Capstone Project *Fall 2023*

- Collaborated with a five-member team to develop an autonomous airport luggage-carrying robot using **ROS2** with **SLAM** and **NAV2** packages, programmed in **Python** for efficient navigation in dynamic environments.
- Integrated **LiDAR** and **OpenCV** with **C++** for precise environment scanning and object detection, significantly enhancing safety and operational reliability.
- Designed and fabricated a robust aluminum base using **SolidWorks** and machine shop tools, delivering a durable and functional final product.
- Facilitated seamless communication as the company CCO, ensuring alignment between the team and faculty for project success.

EDUCATION

Brainstation **Vancouver, BC**
Software Engineering Diploma *Graduated - Nov 2024*

Simon Fraser University **Burnaby, BC**
Bachelors of Applied Science in Systems Engineering *Graduated - April 2024*

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RELEVANT WORK EXPERIENCE

Acura Embedded Inc. **Surrey, BC**
Production Engineer (Co-op Position) *Jan 2024 - April 2024*

- Optimized production processes for rugged computer systems by managing assembly, testing, and calibration, resulting in a 20% efficiency increase while meeting quality standards and deadlines.
- Operated laser machinery to precision-cut over 150 components, ensuring accuracy and compliance with engineering specifications to support seamless production.
- Partnered with the engineering team to redesign the PCB fitting process, decreasing errors and rework by 30% and improving overall project delivery.

SFU NanoTech USRA **Burnaby, BC**
Research Assistant *May 2021 - Dec 2021*

- Conducted in-depth analysis and testing of a nanotech rapid diagnostic detector, optimizing signal processing to achieve a 40% reduction in noise levels and ensuring reliable performance.
- Improved data accuracy and efficiency by 30% through Python-based software enhancements, aligning data collection processes with engineering and quality standards.
- Applied advanced MOSFET soldering techniques and CAD design to streamline hardware components, reducing device size by 15% and minimizing external interference, ensuring compliance with technical specifications.

LEADERSHIP EXPERIENCE

Autonomous Luggage Carrying Robot **Burnaby, BC**
CCO and Lead Electronics Design Drafter *May 2023 - Dec 2023*

- Collaborated with a five-member team to develop an autonomous airport luggage-carrying robot, designing and integrating electrical systems for power distribution, sensor connections, and control signals.
- Implemented LiDAR and OpenCV for environment scanning and object detection, leveraging voltage drop calculations and load management to ensure system safety and reliability.
- Designed and assembled a robust aluminum base using SolidWorks and machine shop tools, ensuring proper electrical grounding and minimizing interference in compliance with technical standards.

iGen Education Group **Vancouver, BC**
Lead Robotics Instructor *Jan 2022 - Nov 2023*

- Trained and mentored new instructors on microcontroller programming and hardware design, enhancing their technical skills and contributing to a 20% increase in student engagement during workshops.
- Designed and conducted a hands-on workshop on microcontroller programming, focusing on hardware interfacing and circuit design, which improved student retention rates by 50%.
- Developed a comprehensive curriculum for hackathons and tech competitions, including advanced topics like embedded systems and sensor integration, resulting in a 30% increase in student participation and award wins.

EDUCATION

Simon Fraser University **Burnaby, BC**
Bachelors of Applied Science in Systems Engineering *Graduated - April 2024*

- Robotics and Automation, Embedded Systems Development, Control Systems Engineering, Electronics Systems Design, Microelectronic Fabrication, Optical and Laser Engineering