

NAVRAJ SINGH KAMBO

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CAREER SUMMARY

Electrical Engineer (EIT) with valuable experience working in industrial environments, primarily focused in Motion Control and Electronics. Excellent interpersonal and communication abilities, while possessing a wide range of technical skills. Enjoys being part of a team, learns quickly, and thrives in high pressure and challenging working environments.

TECHNICAL STRENGTHS AND CORE COMPETENCIES

- Knowledgeable in hardware PCBA design, in circuit testing (ICT), firmware, and schematic capture
- Insightful in classical control theory, robotics, motion control, and industrial control system design
- Experience with industrial programming and networking (EtherNet/IP, CANOpen, Modbus, RS-232)

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|------------------------------|--|
| Modeling and Analysis | SolidWorks, MATLAB/Simulink, Intel Quartus Prime, LTSpice, AutoCad, git |
| Software & Tools | Altium Designer, Studio 5000 Logix, TI Code Composer Studio, Visual Studio |
| | Python, C/C++, Visual Basic .NET, Verilog, STM32CubeIDE, MS Office |

WORK EXPERIENCE

Delta Controls, Surrey

April 2023 - Present

Test & Automation Engineer

- Design and fabrication of bed of nails test jigs and fixtures in Solidworks for PCBA testing
- Reviewing and providing feedback on electrical designs for future products in Altium Designer
- Researching, selecting, and procuring electrical and mechanical components for jigs and fixtures
- Programming and debugging test jigs for automated PCBA product testing of HVAC controllers

Wellons Canada, Surrey

April 2022 - April 2023

Electrical Engineer EIT

- Create construction documents and P&IDs for bio-mass and natural gas energy systems
- Debug Rockwell PLC and HMI programs for lumber dry kilns
- Design MCC single-line diagrams, control schematics, and CSA B149.3:20 compliant gas trains
- Carry out commissioning duties at customer site and provide customer support

Apex Motion Control, Inc., Surrey

August 2019 - April 2022

Design Engineer EIT

- Carried out project management of collaborative robotic cells for the food and beverage industry
- Brainstormed robotic movements and implemented programs for decoration and pick & place purposes
- Composed electrical schematics and wire three-phase electrical panels
- Designed robotic frames and sanitary conveyor belts based on project scope and requirements

British Columbia Institute of Technology, Burnaby

May 2018 - August 2018

Research Intern

- Concluded that concrete cylinders have only a single reliable striking location for strength determination
- Created a working prototype of a cross-platform mobile application (iOS & Android) for use in Haiti on concrete bricks
- Consolidated data from previous concrete testing to develop peak-finding algorithm
- Implemented and debugged time-domain impulse detection algorithm for mobile devices

Wireless Technical Services Inc., Coquitlam*April 2017 - August 2017**Co-op Student*

- Worked on the Fortis BC Radio Network (FBCRN) project, helping point out a possible vulnerability using software defined radio (SDR) technology
- Designed and implemented software in python for network device convenience and maintenance
- Carried out Rack Acceptance Tests (RATs) for quality assurance purposes

EDUCATION

British Columbia Institute of Technology, Burnaby*September 2015 - May 2019*

Bachelor in Engineering, Electrical

Overall GPA: 85%

*Graduated with Distinction***PROJECTS**

Autonomous Vineyard Harvesting

Our senior engineering capstone group aimed to improve on current grape picking systems by developing a robotic vehicle that could harvest grape crops autonomously. It was required to navigate a vineyard without the need for human intervention, work during all times of the day, and successfully detect and harvest wine grape crops using cutting-edge vision technologies, robotics, and various engineering methods we've acquired at BCIT.

STM32 Audio Processor

Recently, I've been working on creating an audio processor using the STM32 Nucleo-F446RE development board and custom firmware. As the board doesn't include an on-board audio codec, I've designed an audio shield which connects to the development board via the ARDUINO V3 expansion header. The project has helped me brush up on topics such as DMA callbacks, DSP, and data buffering.

ACADEMIC ACHIEVEMENTS

- 2019 BCIT Student Innovation Challenge: 2nd place
- 2018 NSERC Undergraduate Student Research Award (USRA) recipient
- 2017 APEGBC Scholarship recipient

VOLUNTEER EXPERIENCE

Guru Nanak's Free Kitchen, East Vancouver*September 2013 - Present**Volunteer*

- Serving lunch to residents of Vancouver's Downtown Eastside
- Assisting with washing and cleanup before and after service
- Occasional cooking and meal preparation duties

EXTRA-CURRICULAR INTERESTS

- Playing soccer at a competitive level
- 3D printing and FPGA/Microcontroller related audio projects
- Long distance running and hiking
- Road and mountain biking