Randy Bedi

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EDUCATION

University of Waterloo
Bachelor of Applied Science, Honours Computer Engineering (*ABET Accredited*) 2025
Coursework: Analog Control Systems, Communication Systems, Digital Signal Processing, Integrated Digital Electronics, Electronic Circuits, RF Integrated Devices and Circuits, Integrated Analog Electronics

EMPLOYMENT EXPERIENCE

Ontario Ministry of Health – Internship Toronto, CA
Application Programmer Sept 2024 – Dec 2024
- Assisted in migration of ETL processes from Informatica PowerCenter (PC) to Informatica Intelligent Data Management Cloud (IDMC), ensuring data integrity and process optimization
- Validated and created mappings, sessions, mapplets, worklets, and workflows to streamline data integration and transformation processes
- Developed SQL queries for data extraction and validation, to support ETL migration and analysis
- Collaborated with cross-functional teams, ensuring smooth transition of ETL processes to cloud environment

Enerlife Consulting – Internship Toronto, CA
Energy Performance Analyst January 2024 – April 2024
- Developed scripts using Python and Selenium to automate the collection of energy usage data from buildings, increasing efficiency by 50%
- Utilized SCADA-based tools to monitor and document HVAC and pump performance data, including temperature, flow rates, and system diagnostics, ensuring operational efficiency and maintaining detailed records for building systems
- Conducted analysis of building energy usage and performed market research to establish new client relationships

CIBC (Canadian Imperial Bank of Commerce) - Internship Toronto, CA
Strategy and Innovation Analyst May 2023 – Aug 2023
- Led project to develop digital banking card for use in digital wallets, integrating student ID and debit card
- Coordinated with various teams, including Cards and Student Acquisition teams, to gather insights and ensure alignment; presented project outcomes to senior directors and Vice President
- Utilized analytics and reporting tool eazyBI to generate reports on JIRA intakes across business units, providing insights into team activities, identifying spending patterns and emerging trends

CIBC (Canadian Imperial Bank of Commerce) - Internship Toronto, CA
Software / Application Developer Sept 2022 – Dec 2022
- Spearheaded adoption of eazyBI within team to create reports and dashboards, analyzing trends and patterns to support decision-making by senior team members
- Oversaw key components of Agile framework in Scrum Master role, including daily stand-ups and retrospectives, while maintaining regular communication with development teams, and product owners
- Executed test cases for Salesforce CRM application using JIRA, ensuring testing and quality assurance

SKILLS

Languages/Frameworks: C, C++, Python, Selenium, MATLAB, Verilog, R, JavaScript, HTML, CSS, SQL
Tools: Simulink, Cadence, LTspice, Altium, KiCad, Informatica, JIRA, Microsoft Office, Fusion 360

PROJECTS

Engineering Capstone Project: Intelligent Plant Monitoring App (KiCad, Fusion 360)
- Created app that monitors soil moisture, temperature, and environmental conditions for optimal plant care
- Leveraged AI to analyze data, delivering watering predictions with automated detection of watering events
- Integrated Arduino through Bluetooth and Wi-Fi for real-time data communication
- Designed custom PCB with KiCad and created enclosure for circuitry and wiring using Fusion 360
- Developed smart watering detection algorithm to track and records when plant is watered

Brokaw Bandgap Reference (BGR) Design (LTspice, KiCad)
- Designed and simulated Brokaw Bandgap Reference (BGR) circuit with startup circuit
- Achieved stable 1.2 V reference across temperature variations using PTAT and CTAT balancing

433.9 MHz AM Transmitter (Altium Designer, Simulink)
- Designing 433.9 MHz AM Transmitter circuit using DSB-TC modulator, differential amplifier, voltage regulators and antenna to transmit audio
- Developing AM envelope detector receiver using Simulink and RTL-SDR to demodulate signal
- Constructing PCB for transmitter using Altium Designer