

Harsh Malhotra

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TECHNICAL SKILLS

Languages: Java, JavaScript, SQL, HTML, CSS,

Frameworks & Libraries: Node JS, Express JS, Three JS, Puppeteer JS, Mongoose(ODM)

Databases: PostgreSQL, MySQL, MongoDB

Other Tools: GIT, Github, Postman

EDUCATION

York University - Lassonde School of Engineering

North York, Ontario

BA - Computer Science

Expected Sept. 2024

- **Overall GPA:** 3.8/4.0

Relevant Courses: Database Management System, Advance Object Oriented Programming, Data Structures and Algorithms, Computational Thinking, Computer Organization , Renaissance Engineering I & II

University of Toronto

Scarborough, Ontario

Honours BSc - Biochemistry Specialist

2014 - 2019

- Involved in two distinct research groups, contributing to both Inorganic Chemistry through directed research & Organic Chemistry by publishing a lab manual for the Advanced Organic Chemistry Course(CHM D92)

PROJECTS

MoviesAPI - Node, Express, MongoDB , Postman

- Created a robust API using **Node.js**, **Express**, and **MongoDB**, adhering to **RESTful** principles and the MVC Architecture
- Implemented **CRUD** functionality, allowing interaction with movie data via **HTTP requests**
- Developed a **custom script** to efficiently manage movie additions and deletions within the database

Automatic Plant Watering System - Java, Firmata4J Library, Arduino Grove Kit

- Created an **event-driven system** that triggers the water pump based on soil moisture levels detected via moisture sensor
- Utilized **Java** as the **object-oriented** language for implementing classes and methods. Leveraged **Firmata4J API** for communication between devices
- Illustrated **practical application** in scenarios like plant nurseries, farms, or personal gardens

Microcontroller- LED Control System Development - C, XC8 Compiler, Pic32 Mips Microcontroller

- Developed an **embedded software application** using the XC8 compiler for a PIC32 **microcontroller**-based system written using **C**
- Implemented functionality to control multiple LEDs based on button inputs
- Utilized **register-level programming** to manipulate GPIO pins for input and output operations

PREVIOUS WORK EXPERIENCE

Analytical Instrument Specialist

May. 2021 - Feb. 2022

Toronto Research Chemicals

North York

- Proficient in operating Bruker Ascend & Ultra 400 MHz NMR instruments for advanced chemical structural analysis, and skilled in operating 2400 CHNS Organic Elemental Analyzer (CHN) for determining elemental composition.
- Analyze data sets to **identify trends** and instrument faults, promptly resolving issues to maintain **accurate and reliable results**
- Fostered **effective communication** and collaboration with scientists to ensure precise chemical analysis using NMR and CHN techniques, guaranteeing testing accuracy and **high-quality results**

Analytical Chemist

Sept. 2019 - Aug. 2021

Toronto Research Chemicals

North York

- Conducted thorough analysis and characterization of chemical products, demonstrating **attention to detail** and adherence to protocols and specifications
- Compiled and **interpreted data** from multiple tests, showcasing **analytical** and data interpretation skills
- Maintained clear and **effective communication** with instrument operators, ensuring the **exchange of critical information** related to hazards, techniques, and methodologies