

PAHUL MANGAT

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EXPERIENCE

Software Developer | *StayinFront*

Jul 2022 – Present

- Designed, developed, and maintained **.NET**-based applications using **C#**, **Visual Basic** and **SQL** Server for cloud-based CRM solution with client-specific customizations
- Achieved 1000+ hours in time savings and improved application efficiency by developing automated workflows to import complex data structures, update and maintain existing data tables, and generate reports on data anomalies
- Improved timeliness of data transfer for users by up to 70% by developing **REST API** interfaces for updating and querying data
- Improved identification and resolution of potential issues for clients by implementing and maintaining Watchdog monitoring and alert systems

Manufacturing Advancement and Analytics Engineer Intern | *INVISTA*

July 2020 – Aug 2021

- Technical lead for multiple visual analytics projects to improve existing manufacturing processes
 - Surpassed human inspection accuracy in detecting product defects by up to 300% by developing and optimizing computer vision tools using Keyence Vision Systems
 - Prevented potential \$10MM critical site quality risk by developing a computer vision program using **OpenCV** library in **Python** with a **Raspberry Pi**
 - Increased scalability by containerizing Python code using **Docker** and storing images taken by CV tools using **AWS**
 - Transformed data produced by CV tools into insights for Operations team using **SQL** database and Power Query
 - Received Enterprise Award for driving transformation and turning knowledge into action
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PROJECTS

Smart Home Window 🐙

- Developed a **Python** program to automate window and blinders based on sunlight, weather and other factors
- Designed a functioning prototype of the product using a **Raspberry Pi**, motors, weather sensors and Weather **API**
- Designed an Android mobile app using **Kotlin** to allow the user to give inputs and manually control the device

Robotic Manipulator Project 🐙

- Computed forward/inverse kinematics and jacobian of a 7 DoF serial manipulator using **MATLAB**
- Developed a path-planning algorithm using **MATLAB**
- Modeled and simulated a PID and an inverse dynamics controller for joint movement using **Simulink**

Embedded System Design Project 🐙

- Designed a portable bottle that is capable of both heating and cooling a beverage inside to a desired temperature
- Designed the software of the device using **C** on an **ARM Cortex A9 Microcontroller**

Autonomous Part Collecting Robot 🐙

- Designed and built an autonomous robot that can collect small parts and dumps them into a bin using an **Arduino**
 - Programmed the movement, sweeping and dumping mechanism, and obstacle avoidance of the robot in **C++**
 - Robot scored the most points for first place in showcase out of 16 teams
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SKILLS

- **Languages:** C/C#/C++, Python, Visual Basic/VB.NET, HTML/CSS/JavaScript, SQL, MATLAB, Kotlin
 - **Technologies/Frameworks:** .NET, Git, REST APIs, Postman, Computer Vision, Linux, Arduino
 - **Other:** AWS, Docker, Embedded System Design, Microcontrollers, Selenium
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EDUCATION

B.E.Sc Mechatronic Systems Engineering | Western University

2017 - 2022

- Dean's Honour List (2021-2022; 2019-2020), Western Scholarship of Distinction (2017)