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Kunal Pandya

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## PROFESSIONAL SUMMARY

Dedicated Software Engineering Student with hands-on experience in C# programming within the .NET framework and C++ development using the MFC library as a Systems Design Engineer Co-op at Hitachi Truck Manufacturing. Adept in Back end and object-oriented programming. Eager to explore the field generative AI and Agentic AI workflows.

## SKILLS

**Programming Languages and Libraries:** Python, TensorFlow, Sklearn, HTML, CSS, Tailwind, JavaScript, Next.js, Typescript, PHP, MySQL, Java, Spring Boot Maven, C/C++, C#, .NET, Visual Basic Applications (VBA), PowerShell.

**Technical Skills:** Object Oriented Programming, API-based Development, Multi-threaded Programming, Development using Data Structures and Algorithms, Implementation of Design Patterns with SOLID principles, Prompt Engineering, Retrieval Augmented Generation (RAG), Model Context Protocol (MCP) development, Linux/Unix development.

**Professional Skills:** GitHub, GitLab, Docker, Jenkins, Agile Development Cycle, NX, SolidWorks, MS Power tools.

## PROFESSIONAL EXPERIENCE

### Hitachi Construction Truck Manufacturing Ltd.

#### Systems Design Engineer Co-op

May 2024 – August 2025

- Demonstrate organization skills by independently designing and developing a virtual dashboard using the MFC library in C++, enabling real-time visualization of sensor-based CAN data, along with a UI test bench to simulate CAN data communication.
- Leveraged critical thinking to design and implement algorithms in C# using .NET and OpenNX, automating manufacturing-related calculations in NX, saving senior designers up to 80 hours annually.

### Vale

#### Information Technology Co-op

June 2023 – Sept 2023

- Demonstrate problem-solving skills by automating data update processes and ensuring access to up-to-date critical metrics within the Project Controls Department, enhancing department efficiency.
- Showcase adaptability and technical expertise by designing and maintaining an internal SharePoint website, streamlining operations, and facilitating efficient information management for the Project Controls team.

### Ultimate Codes

#### Programming Tutor

Sept 2020 – April 2024

- Demonstrate effective communication and collaboration skills by customizing the curriculum for each student.
- Display leadership and adaptability by teaching students of a vast age group in various programming languages.
- Exhibit dependability by taking over classes for other tutors in cases of emergencies and cancellations.

## PROJECT

### K-Means-Clustering - Data Structures Final Project

- Implement the basis of the K-means-clustering algorithm used in modern machine learning projects using object-oriented Java to demonstrate the importance of selecting the optimum data structure for a given problem.

### Rott-Ed – Hackathon Project

- Developed Rott-Ed, an AI-powered application that converts academic PDFs into TikTok-style videos by leveraging multi-layered prompt engineering with Google Generative AI APIs for summarization, image generation, and speech synthesis, supported by a Python backend (Flask, MoviePy, gTTS, Pillow) and an HTML/CSS/JavaScript frontend with Android mobile integration.

### Real-Time Data Telemetry - Ontario Tech Racing

- Use PCAN-Basic, Cantoools, Python-Can, Tkinter and Matplotlib libraries in Python to design a dynamic, dbc-based telemetry interface to display real time data passed over multiple pipelines of a Controlled Area Network (CAN) bus.

## EDUCATION

### Ontario Tech University

- Bachelor Of Software Engineering (CGPA: 3.79)

May 2026