Frank Vanris

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Introduction:

A B.S. in Computer Science Graduate from Bellevue College, specializing in Software Engineering, Embedded Systems, and Applied Robotics. I am passionate about utilizing C++, Python, and Java to solve complex, real-world problems, with proven experience in Test-Driven Development (TDD) and adherence to SOLID principles. My professional focus includes developing robust, scalable applications and integrating complex hardware and software systems. Eager to find opportunities in the Netherlands that leverage my technical skills and willingness to learn.

Technical Skills

Core Programming Languages	C, C++, Python, Java, Javascript, Typescript, SQL
Frameworks & Libraries	ROS2, TensorFlow, KNN, AWS, React, freeCAD, Fusion360
Development Environments	Visual Studio Code, Visual Studio, Arduino IDE, IntelliJ, Eclipse, MATLAB, PyCharm, Jupyter Notebook, Git, Github
Operating Systems	Windows, Linux (Ubuntu/ROS), FreeRTOS, *Raspberry Pi OS, Bare-Metal*
Development Methods	Scrum, Agile, Waterfall, RAD, TDD (Test-Driven Development), SOLID Principles
Interfacing/Protocols/MCU's	Arduino, esp32, Raspberry Pi, UART, I2C, SPI
Development Processes	SDLC, CI/CD, Code Review

Education

Sep 2021 – jun 2025	**Bellevue College**, *Grade: 3.4/4.0* BSc Computer Science
Sep 2018 – June 2021	**Digipen & Interlake Highschool**, *Grade: 3.5/4.0,* Associates in Computer programming, game development & Highschool Diploma

Professional Experience

Aug 2024 – June 2025	School Project	FollowBot / Bellevue College
April 2024 – June 2024	School Project	Snow Prediction / Bellevue College
Sep 2024 – June 2025	School Club President	Bellevue College Club
Sep 2023 – Mar 2024	Personal Project	Robotics/ Bellevue College Makerspace
Sep 2022 – June 2024	School Club Leetcode Coordinator	Bellevue College Club

Languages

Dutch (Conversational), English (Fluent), Spanish (Int)

PROJECTS

FollowBot / Bellevue College | Aug 2024 – June 2025

This project involved designing a smart robotic platform that leverages the ROS2 framework for autonomous functionality. I engineered the core control logic using C++ for low-latency tasks. The system required complex integration across multiple stacks, including connecting embedded devices (Arduino) and establishing communication with AWS for data logging. Finally, I ensured full user accessibility by developing the interactive control platforms, including the website/web app, using React & Robot user-interface.

Technologies: C++, Python, ROS2, Robotics, Arduino, React, HTML, CSS, JavaScript, AWS, freeCAD, Fusion360, & Electrical Engineering.

Snow Prediction / Bellevue College | April 2024 – June 2024

In this software engineering project, I developed a full-stack platform for snow prediction at Snoqualmie Pass. I engineered the data ingestion pipeline using Python to fetch and process live weather and historical snow data via a third-party API. The core logic involved implementing and optimizing a K-Nearest Neighbors (KNN) model for reliable daily snowfall prediction. The entire development cycle followed Agile methodologies, and we ensured code stability and quality by implementing comprehensive Unit Testing. Finally, I integrated the predictions into a user-facing web front-end built with React.

Technologies: Python, Machine Learning, API development, Documentation, Unit Testing, Agile Development, and React, KNN.

Robotics / Bellevue College Makerspace | Sep 2023 – Mar 2024

This was a foundational robotics project focused on mastering embedded system fundamentals and basic control. The core challenge was implementing precise movement within an imaginary grid using a microcontroller. I successfully developed control logic using C++, leveraging State Machines to manage the robot's movement transitions. This phase required hands-on application of Electrical Engineering concepts, including motor interfacing and soldering, and culminated in a functional prototype demonstrating command execution on Arduino hardware.

Technologies: C++, State machines, Arduino, Robotics, Electrical Engineering, Bare-Metal & Fusion360.

Bellevue College Club | Sep 2021 – June 2025

For four years, I was a foundational leader in the Bellevue College Computer Science Club, progressing from LeetCode Chief to Club President (2024–2025). As President, I defined the club's strategic vision and managed weekly staff meetings to plan future initiatives. I successfully organized and oversaw all major CS events, managing proposals and coordinating schedules for the student body. Concurrently, as LeetCode Chief, I provided technical mentorship across C++, Python, and Java by leading weekly problem-solving sessions and curating technical problem sets. This experience demonstrates proven ability in leadership, project management, and technical instruction.

Key Skills: Organizational Leadership, Strategic Planning, Event Management / Coordination, Team leadership, Proposal Management, Problem Solving, Algorithm Analysis Curriculum Development.