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SPECTRUM AG
Schulze-Delitzsch-Str. 41
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Software Engineer - Qt/C++ Application

Respected Hiring Team,

I am thrilled to apply for the Software Engineer - Qt/C++ position at SPECTRUM AG, a global leader in innovative test and measurement solutions. Your recent introduction of advanced test solutions for 6G communication systems in March 2025, enhancing validation for telecom and satellite applications, underscores your commitment to cutting-edge technology. I am eager to contribute my expertise in Qt and C++ development to support SPECTRUM AG's mission of delivering high-quality software solutions for critical industries like telecommunications and automotive.

During my Master's program, focusing on AI, I primarily used Python and Ubuntu as my development environment to develop applications for AI-driven tasks. One notable project involved autonomous navigation of the Turtlebot3 in a selected area, incorporating object detection and avoidance, while also mapping the area and ensuring the robot could return to its origin. This project utilized ROS (Noetic) and Gazebo for virtual testing, with key ROS nodes developed in both C++ and Python. Additionally, I managed a CI/CD pipeline for software testing and validation against key performance indicators (KPIs). Data from these operations was efficiently stored, analyzed, and optimized using MySQL. Parallel to my academic pursuits, during nine months at AVL, I worked on the Adaptive AUTOSAR middleware (Service Oriented Architecture) and developing its applications in C++. These Adaptive Applications were deployed on a custom Real Time Linux Operating System using Yocto project. After this, I continued at AVL for my Master's thesis, where I was tasked with upgrading their legacy FMU Generation Utility (written in C++) from the FMI 2.0 to the FMI 3.0 standard, thereby enhancing the functionality of the existing tool for Co-simulation of automobile parts build in different systems like MATLAB, C++ etc. In my Thesis, I also leveraged Google Protocol Buffers through ASAM OSI for efficient data serialization, streamlining integration of sensor and environmental models in driving simulations, enhancing virtual testing capabilities. At Persystems, I was a Junior C++ Developer, where I developed Virtual TestBench, a Qt Desktop application for simulations of electrical components, leveraging Persystems' proprietary library. My responsibilities included designing the UI/UX in the Qt Creator IDE with C++ to ensure a seamless user experience. I have also implemented the application's logic by connecting UI widgets to custom slots, using Qt's signal-slot mechanism to manage data flow between the UI and the backend operations interfacing with Persystems' testbench library. Additionally, I have built a separate license check application for Virtual TestBench using Qt and C++.

My experience at Persystems and AVL, combined with my Masters work on Turtlebot3, positions me to excel in developing Qt/C++ applications at SPECTRUM AG. At Persystems, I developed Virtual TestBench, a Qt-based desktop application, where I designed UI/UX with Qt Creator and implemented logic using C++ and the signal-slot mechanism, directly aligning with your need for feature development and optimization in Qt/QML. My work at AVL on Adaptive AUTOSAR middleware and upgrading the FMU Generation Utility with C++ and ASAM OSI standards honed my skills in integrating software with complex subsystems, crucial for coordinating with SPECTRUM AG's system components and external partners. My expertise in Python, ROS, and CI/CD pipelines from the Turtlebot3 project ensures I can analyze requirements and deliver robust, tested features. Additionally, my experience with MySQL for data optimization and technical documentation at Persystems equips me to produce high-quality documentation for maintenance and support, enhancing SPECTRUM AG's test and measurement solutions.

Among the many skills I have honed throughout my career, teamwork stands out as the most pivotal. My past experiences have emphasized the fundamental truth that sustainable solutions are often the result of collaborative efforts, rather than individual brilliance. I am eager to become part of the team and am committed to contributing my utmost from the very start, beginning immediately.

I would be greatly honoured to receive an invitation for an interview.

Yours sincerely
Milind