

Shaik Zubair Ahmad

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Objective

Results-driven Software Engineer specializing in **Qt/C++ and Qt Quick (QML) application development** for **embedded and hardware-integrated systems**. Experienced in designing production-grade, **multithreaded applications with real-time data acquisition**, protocol-level communication (**RS232/RS422**), **TCP** and advanced data visualization. Proven ability to build and deploy cross-platform solutions across **Windows, Linux, Raspberry Pi**, and containerized environments using **Docker**. Adept at translating complex hardware behavior into reliable, **touchscreen-optimized, user-centric software for industrial test environments** with strong focus on **robustness, performance, and maintainability**.

Professional Experience

Qt/QML C++ Software Engineer

MayTech Systems, Hyderabad

Jul 2024 – Present

- Lead developer for **10+ production-grade Qt applications** delivered to defense and industrial clients, owning complete lifecycle from requirement analysis to deployment and client handover.
- **Collaborated closely with embedded firmware teams (STM32 based systems)** to define communication protocols (**RS232, RS422, TCP**), packet formats, timing constraints, and validation logic for reliable hardware–software integration.
- Designed and developed **HighGTestJig** applications for **DRDO**, enabling automated hardware testing, real-time data acquisition, live plotting (**QCustomPlot**), SQLite-backed state persistence and Excel report files (**QXlsx**), and structured logging.
- Architected and developed **ACHT (Automatic Cable Harness Tester)** — a secure **Qt C++ kiosk application** for **BEL and Solar Defense & Aerospace Ltd**, enabling automated continuity, resistance, insulation, and isolation testing with **PDF reporting**, industrial-grade reliability, and abort-safe execution logic.
- Developed a **touchscreen-optimized Qt Quick (QML + C++) test automation application** for embedded platforms, featuring page-based workflows, dynamic test sequencing, real-time UI–backend communication, role-based login system, progress tracking, and robust state handling for industrial reliability.
- Developed **embedded test jigs and tooling applications** such as **BaseShroud Test Jig** and **Envirologger**, integrating serial communication, real-time visualization, FFT-based signal analysis (**KissFFT**), and fault-tolerant data handling.
- Implemented **multithreaded architectures** using QtConcurrent, mutexes, and timers to ensure responsive UI, deterministic hardware communication and a **centralized timestamped debug logger** across applications to trace protocol communications.

- Created **Dockerized Qt runtime environments** for Linux and Raspberry Pi (ARM64), enabling consistent cross-platform deployment and faster environment provisioning.
- Used **Git and GitHub** for version control, code reviews, issue tracking, and maintaining stable production branches.
- Authored detailed SDDs covering architecture, modules, database, protocols, and design patterns for maintainable systems.

Contract Junior Software Engineer (*Client: RCI-DRDO*)

Hydro Pneumatic Engineers (Hyd) Pvt. Ltd., Hyderabad

Mar 2023 – Jun 2024

- Developed and maintained Qt/C++ applications for defense-related hardware systems, focusing on **data acquisition, logging, and protocol-based communication**.
- Built an **automated log retrieval and analysis tool**, improving debugging efficiency and reducing manual inspection time.
- Ported legacy applications to **newer Qt versions**, resolving framework, compiler, and MySQL, compatibility issues.
- Worked extensively with **RS422 and socket-based communication**, participating in debugging, testing, and code reviews under client-driven requirements.

Python Intern

Think Champ Private Limited, Remote

Jan 2023 – Feb 2023

- Developed GUI-based applications using **Python and Tkinter**, including a Bill Management System and Train Ticket Booking System.
- Used **NumPy and Pandas** for basic data processing and analysis, gaining early exposure to structured application development.

Technical Highlights

Medical Report Generation Application

Developed a Qt/C++ desktop application for generating structured medical reports with user input forms and complex layouts; implemented PDF and Word document generation using QPdfWriter, QPainter, and Python-based conversion tools.

TM1637 GPIO Display Controller (Raspberry Pi)

Built a Python/Tkinter-based GUI to control a TM1637 4-digit 7-segment display via Raspberry Pi GPIO, implementing text display, scrolling messages, stopwatch, digital clock, and brightness control with non-blocking threaded execution.

Custom Qt 6.9.1 Build from Source (Windows, CMake/Ninja)

Built **Qt 6.9.1 from source** on Windows using **CMake and Ninja**, selectively compiling essential modules (qtbase, qtserialport, qtools) to reduce build time and footprint. Configured custom

install prefixes, resolved build-path limitations, and integrated the build with **Qt Creator**. Created a reusable **windeployqt automation script** for offline deployment, enabling full control over Qt toolchain, runtime dependencies, and cross-project consistency.

Linux X11 Forwarding & GUI Automation (Raspberry Pi ↔ Windows)

Diagnosed and resolved X11 forwarding issues for running Qt/GTK GUI applications over **SSH**; automated environment setup with a custom **shell script** and using **PuTTY**, **VcXsrv/XLaunch**, handling X11 sessions, authentication, and D-Bus runtime configuration.

Education

Bachelor of Technology (Mechanical Engineering)

Jawaharlal Nehru Technological University Anantapur (JNTUA), Kalikiri | **2018 – 2022** | 74.21%

Technical Skills

- **Languages:** C/C++ (OOP, STL, C++11, Multithreading), Python (Scripting & Automation)
- **Frameworks:** Qt (Widgets, Qt Quick/QML), Qt Designer, qmake
- **Operating Systems:** Linux (Red Hat, Debian, Bash), Windows
- **Communication:** RS422, RS232, TCP/IP Sockets
- **Databases:** SQLite, MySQL
- **Tools:** Git, GitHub, Qt Creator, Inkscape
- **Web/Other:** HTML, CSS, WebAssembly (WASM)

Licenses and Certifications

- **Python Programming Certification** ([Link](#)) – THINK CHAMP PRIVATE LIMITED
- **Python Internship Certificate** ([Link](#)) – THINK CHAMP PRIVATE LIMITED
- **Git** ([Link](#)) – THINK CHAMP PRIVATE LIMITED

Personal Details

- **Date of Birth:** 17/11/2000
- **Languages Known:** English, Hindi, Telugu, Urdu

Declaration

I hereby declare that all the details furnished above are true to the best of my knowledge.

Date: Dec 14, 2025

Place: Hyderabad