

Allan Yuvaraja

Software Engineer

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PROFESSIONAL SUMMARY

Software Engineer with **2+ years of experience in developing software modules for embedded systems** at **HCL Technologies**. Hands-on experience in **C++ and Bash scripting**, with strong application of **Object-Oriented Programming (OOP) concepts**. Proficient in **automation and manual testing activities**, including **requirement analysis, test case design, execution, defect tracking, and system, regression, unit, performance, and smoke testing**. Seeking to leverage my technical and testing expertise to contribute to high-quality, reliable software solutions in a growth-oriented organization.

CORE COMPETENCIES

Programming Languages: C++

Scripting Languages: Shell Script (Bash)

Automation & Testing: Manual to Automation Test Case Conversion, Robotic Arm Automation, System Testing, Regression Testing, Unit Testing, Performance Testing (basic verification and validation), Smoke Testing

Developer Tools: Putty, VS Code, WinSCP, Notepad++, Tera-term

Version Control: Git

Domain Knowledge: Embedded Systems Testing, Multi-Function Printer (MFP),

Medical Devices, Infusion Pump Systems, Hardware–Software Integration Testing

Management Tools: Fixit, Planit, PM-Smart

PROFESSIONAL EXPERIENCE

Software Engineer – Development & Testing

Jan 2024 - Present

HCL Technologies Limited | Xerox project (MFP)

Chennai

- Developed and enhanced **software modules in C++ under Linux environments** for **Multi-Function Printers (MFP)** as part of the Xerox project, following embedded software development best practices.
- Developed and deployed **patches using Shell (Bash) scripting**, supporting **audit and review processes** to ensure controlled and traceable software updates.
- Implemented and tested **fax communication (T.30 protocol)** on MFP devices integrated with fax cards over **VoIP and FOIP lines**, including large fax job validation and failure analysis.
- Analyzed and summarized logs from **Fax Controller, Copy Controller, Network Controller**, and other subsystems to perform **defect analysis and root-cause identification**.

- Tested and validated **EJS (External Job Services)** including **Print, Scan, Copy, and Fax jobs** on MFP devices.
- Performed comprehensive testing activities including **Smoke Testing, Unit Testing, Regression Testing, Software Verification Testing (SVT), and ODIO testing.**
- Collaborated with cross-functional teams to analyze requirements, design test cases, and ensure quality and compliance across embedded systems.
- Used **Git** for **version control** and **code reviews**, ensuring controlled and traceable updates to Software modules.

Baxter Project – Medical Devices (Infusion Pump Systems)

- Converted **100+ manual test cases** into **automated scripts using Python**, creating reusable custom keywords and reducing manual testing effort by **60%**.
- Developed **Python-based automation robot scripts** to improve test reliability and maintainability.
- Conducted **dry runs** and **formal validation testing** involving **hardware-software integration**, including robotic arm-based test execution.
- Worked in compliance with **regulated medical device environments**, supporting documentation and validation requirements.

EDUCATION

Bachelor of Engineering (B.E.)

2019 - 2023

Velammal Engineering College

Chennai

TRAININGS & CERTIFICATIONS

- **C++ Intermediate Training** with Silver badge at HCL Star Academy
- **Git & GitHub** from Skillsoft
- **Shell Scripting** from Skillsoft
- **Gen AI L2 Basic Prompt Engineering** from HCL Star Academy
- Capstone Project – Designed & Developed a complete module of console-based **Complaint Handling System** to track complaints from admin side, assigned to employees, and allowed user to raise complaints using **C++ & JSON**

ADDITIONAL INFORMATION

Languages: English & Tamil