SUNIL J. SINGH

Software Engineer

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PROFESSIONAL SUMMARY

Software Engineer with around **3+ years of experience** across the complete Software Development Life Cycle (SDLC), including planning, analysis, design, implementation, testing, and maintenance support. Hands-on experience in **C, C++, Linux, TCP/IP networking, and socket programming**, with strong exposure to **legacy systems, performance improvements, bug fixing, and feature enhancements**. Skilled in working with configuration management tools such as **ClearCase and Git**, developing test cases and unit tests, and collaborating in cross-functional teams. Proactive, highly adaptable team player with strong **analytical, problem-solving, debugging, and multitasking** abilities.

TECHNICAL SKILLS

Programming Languages and Technologies: C, C++, Shell scripting, Bash scripting, Linux, Ubuntu, TCP/IP Networking, Socket Programming

Databases: SQLite

Development Tools and Platforms: Visual Studio Code, MFC, Win32 API, Git, GitHub, IBM Rational ClearCase Explorer, MobaXterm, Microsoft SQL Server Management Studio (SSMS), Windows, Linux

Concepts and Additional Skills: Object-Oriented Programming (OOP), Networking concepts, .LL file recorder, VB Scripts

KEY ACHIEVEMENTS

- **Automation and Self-Help Tools:** Designed and implemented a self-help software installation and maintenance tool using C/C++, batch scripts, and SSMS, significantly reducing manual intervention for installation and cleanup activities.
- **Custom Deployment Solutions:** Built custom `.exe` and `.msi` packages tailored to client environments, enabling seamless software deployment across multiple user machines.
- **High-Performance Networking:** Leveraged DPDK libraries and NIC binding techniques to bypass the kernel and substantially improve packet processing speed and throughput.
- **System-Level Debugging:** Resolved critical issues in legacy and production systems by root-cause analysis, performance tuning, and systematic debugging across Windows and Linux environments.
- **Client-Facing Collaboration:** Worked directly with clients for requirement collection, demos, design discussions, and code reviews, ensuring alignment between technical solutions and business needs.

PROFESSIONAL EXPERIENCE

Software Engineer   **June 2022 – November 2024**

Webvoom Pvt. Ltd.

Auto Software Installation – Self Help & Self Heal! (P1)

Tools: C++, Windows, MFC, SSMS, Batch scripting

- Developed and launched a comprehensive **Software Maintenance and Installation Tool** to automate installation and maintenance workflows for end users.
- Created batch scripts to automate cleanup processes, reducing manual effort and improving operational efficiency.

- Built a user-friendly **self-help tool** enabling silent installation of multiple applications based on client-specific configuration.
- Generated custom installation packages (`.exe`, `.msi`) to support seamless deployment across user machines.
- Utilized **C/C++** for core development, ensuring robust performance and reliability of the maintenance and installation framework.

Gatespeed Products – High-Performance Networking (P2)

Tools: C, C++, Linux, DPDK Libraries, Networking utilities

- Enhanced packet processing performance by binding Network Interface Cards (NICs) to bypass the kernel, significantly increasing throughput and efficiency.
- Implemented low-level **DHCP programs**, socket programming routines, and send/receive macros for governor components using core C programming.
- Applied in-depth TCP/IP stack knowledge and UDP/TCP programming techniques to optimize network communication and data flow.
- Utilized **DPDK** (Data Plane Development Kit) libraries for interacting with hardware NICs, optimizing packet processing paths.
- Performed **iperf-based performance testing** to measure bandwidth, speed, and packet loss, using results to fine-tune system behavior.
- Used Linux system administration and tools (including Ubuntu and MobaXterm) for environment setup, debugging, and performance tuning.

Software Engineer   January 2025 – Present

Utthunga Pvt. Ltd.

TPS Builder

Tools: C++, Windows, MFC, SSMS, ClearCase

- Worked on **Honeywell TPS Builder** for configuring, programming, and troubleshooting HPM/EHPMX industrial controllers in a large-scale oil & gas plant environment.
- Resolved critical environment issues such as DLL failures, registry path mismatches, and chroma coding problems to stabilize development and runtime environments.
- Supported major system upgrade initiatives by helping migrate **100+ HPMs to EHPMX** and automating batch translation for **13,000 runtime displays**, eliminating manual effort.
- Developed and maintained project features using C++, Windows, and MFC, ensuring adherence to coding standards and performance requirements.
- Managed code versions and branches using **IBM Rational ClearCase**, supporting parallel development and controlled releases.
- Prepared **WSRs, MOMs, audit documents, and project metrics**, and carried out rigorous testing across Experion and non-Experion machines to validate system stability.

Migration Tool

Tools: C, C++, Windows, MFC, Visual Studio, ClearCase

- Fixed issues reported in the migration tool used for converting and upgrading legacy configurations to modern environments.
- Performed functional, regression, and unit testing for newly developed features to ensure code quality and stability.
- Resolved **Coverity** static analysis issues and participated in client interactions for demos, requirement gathering, design discussions, and code reviews.
- Updated Windows dialog wizards and implemented corresponding classes and methods to execute functionality on wizard load, button actions, and component selections.

EDUCATION

Bachelor of Science in Computer Science　　　　　　　　　**Graduated: May 2022**
Karmel Vidya Bhavan Trust CHRIST College (Pune University)　　　　　　Pune, Maharashtra

CERTIFICATIONS

- **Vector India, Bangalore:** Certification in C, C++, TCP/IP
- **Hackerrank:** Golden badge in C and C++ (Hackerrank Profile)

ADDITIONAL INFORMATION

Professional Experience: Around 3+ years in software development, maintenance, and networking projects

Domain Expertise: System programming, networking, industrial/control systems support, legacy system modernization, installation & maintenance tools

Core Competencies: Problem-solving, debugging, performance optimization, multitasking, client communication, documentation, unit testing

Soft Skills: Pro-active, highly adaptable, strong team player with excellent communication and analytical skills