

# Himanshika Singla

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## PROFILE SUMMARY

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Results-driven **Software Engineer** with 3 years of experience in **C++ development, Windows internals, and UI modernization**. Skilled in **multithreading, STL, debugging (WinDbg, Sysinternals)**, and performance tuning. Strong in **system-level design**, scalable architectures, and cross-functional collaboration. Proven record of reducing production defects, improving performance, and delivering quality software in Agile environments.

## TECHNICAL SKILLS

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**Languages:** C, C++, Java, HTML, CSS, JavaScript

**Frameworks/Libraries:** MFC, SciterJS, RapidJSON, REST APIs, RabbitMQ, Win32 APIs (Hooks, Events)

**Tools & IDEs:** Visual Studio, VS Code, WinDbg, DebugView, Process Monitor, Postman, vSphere

**Version Control/PM:** Git, GitHub, SVN, Jira

**Operating Systems:** Windows (Advanced), Linux (Basic CLI & Scripting)

**Core Concepts:** Data Structures & Algorithms, System Design, Multithreading, STL, OOP, Memory Management

**Databases:** SQL Server, MySQL

## EXPERIENCE

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**Quick Heal Technologies**, Pune, India

Jan 2022 – Present

*Software Engineer*

- Migrated core product UI from legacy **MFC** to modern **Sciter-based framework** using **C++/Win32 APIs** | improving UI performance and maintainability by **20%**.
- Implemented and optimized **multithreaded modules**, resolving race conditions and deadlocks in production code.
- Developed **POC for real-time detection of third-party remote access tools**, strengthening endpoint protection.
- Re-engineered key utilities (File Vault, Uninstallation, Data Backup, System Info) to a modular Sciter SDK structure.
- Diagnosed and resolved system-level issues using **WinDbg, Process Monitor, Sysinternals**, reducing customer-reported bugs by **35%**.
- Collaborated with QA/Product/Support teams to deliver critical patches and features | cutting bug resolution time by **40%**.
- Contributed to security feature delivery in **Agile bi-weekly sprints**, ensuring high-quality and on-time releases.

**Quick Heal Technologies**, Pune, India

Jan 2022 – Jun 2022

*Software Engineer Intern*

- Built an **MFC-based desktop automation tool** | streamlining UI testing and boosting validation efficiency by **40%**.
- Used **Windows Hooking APIs** for input event capture/replay, automating repetitive testing processes.
- Improved QA workflows and compatibility testing, reducing manual efforts by **35%**.

## PROJECTS

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### Windows Event Capture & Replay Tool

C++ | MFC | WIN32 HOOKS | UI AUTOMATION | [GitHub](#)

- Designed and developed a Windows-based tool for capturing and replaying input events, automating QA validation.
- Implemented **low-level keyboard and mouse hooks** via **Win32 APIs** to record system events in real-time.
- Created a replay engine using a timestamp-based event queue to ensure accurate event simulation and timing.
- Built an interactive **MFC UI** with dynamic recording controls, status indicators, and performance metrics.
- Integrated into CI/CD pipeline for reusable test workflows, improving test coverage and reliability.
- Reduced manual testing effort by **40%** and accelerated GUI regression testing by **25%**.

### C++ Competitive Coding Judge (DSA Evaluation Engine)

C++ | STL | MULTITHREADING | ALGORITHMS | [GitHub](#)

- Developed a backend engine simulating online coding judge functionality with thread-safe concurrent submissions.
- Designed modular components for compilation, execution, and validation pipelines using multithreading and mutex locks.
- Implemented efficient algorithms and data structures (Trie, HashMap, Segment Tree) for output validation.
- Added sandbox execution environment with timeout detection to handle infinite loops and memory overflows safely.
- Optimized large test case handling using **memory pooling, lazy evaluation, and buffered I/O**, improving throughput by **30%**.
- Built structured test result reports (verdicts, errors, execution time), simulating a real coding judge dashboard.

## LEADERSHIP EXPERIENCE

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### Mentor / Team Lead, Quick Heal Technologies

- Mentored junior developers on debugging tools, Windows internals, and SDLC best practices.
- Led cross-functional planning with QA/Product teams, improving delivery timelines by **20%**.
- Introduced automated triage workflows, accelerating root-cause analysis for high-priority bugs.

## EDUCATION

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**Chitkara University**, Punjab, India

Bachelor of Engineering in Computer Engineering

*GPA: 9.71/10*

Jul 2022