

Mandeep Singh

C# | .NET | Backend

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Profiles

Mandeep Singh

Summary

I'm the kind of person who can't walk past a problem without trying to fix it – whether it's reviving a burned-out national lab instrument or building tools that save IT teams from endless manual work. I'm a software engineer who loves turning “this is too complicated” into “why didn't we do this sooner?”

From securing medical devices (because hackers are no joke) to making surgical workflows less of a headache for doctors, I've always been drawn to work that makes a real difference. I'm that person who gets weirdly excited about automating repetitive tasks or finding clever ways to make systems more reliable.

Outside of work, I'm still the same guy who once led a team of 150 to pull off a college fest – which basically means I can herd cats, manage chaos, and get people excited about a shared goal. These days, I channel that energy into mentoring junior engineers and geeking out over tech that's not just smart, but also sustainable.

At the end of the day, I just love building things that work – and work well.

Experience

Dell

Senior Software Engineer

https://www.dell.com/en-in

Dec 2022 - Present

Gurugram

Dell Remediation Scripts

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Developed 70+ PowerShell and CS-Script automation scripts to resolve critical IT infrastructure challenges, later integrated into Dell's official Remediation Technology suite.

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Scripts were packaged as a premium feature, directly contributing to **\$15M in revenue** by addressing widespread customer pain points.

Dell Chrome OS Telemetry Platform

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Led end-to-end development of a telemetry aggregation system for Chrome OS devices, designing scalable backend architecture and RESTful microservices.

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Orchestrated cross-functional collaboration to ensure seamless data collection, enabling real-time analytics for 50,000+ enterprise devices.

Driver/BIOS Deployment Automation Tool

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Engineered a depot-facing application to automate device-specific Driver/BIOS updates, reducing manual configuration time by **40%** and standardizing workflows across 12 global service centers.

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Accelerated large-batch device programming by 3.2x, enhancing depot throughput and reducing firmware-related service recalls by **18%**.

Stryker

Software Engineer

https://www.stryker.com/in/en/index.html

Jul 2019 - Oct 2022

Gurugram

Cloud Data Extraction & Parser Development

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Engineered scalable cloud data parsers to transform raw device data into actionable insights, enabling cross-functional teams to optimize product workflows.

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Delivered custom parser solutions for 12+ device categories, reducing data processing time by 35% and accelerating feature deployment cycles.

Medical Device Cybersecurity Overhaul

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Spearheaded a 3-year initiative to redesign security architecture for IoT medical devices and cloud software, implementing FIPS 140-2 compliant encryption and PKI frameworks.

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Deployed a zero-trust licensing system that reduced cyberattacks by **90%**, preventing potential losses exceeding **\$8M** annually in breach-related costs.

Operating Theater Integration Platform

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Architected a unified control system for surgical devices using Bluetooth Low Energy (BLE) and custom APIs, centralizing data from 6+ device types onto a single interface.

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Eliminated 15+ manual workflow steps for surgeons, improving procedure efficiency by **25%** despite limited direct revenue impact.

Sustainable Medical Device Reprogramming Solution

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Developed an RFID tag management system with SQL-backed dynamic data updates, reducing medical equipment reprocessing time by **30%**.

•

Contributed to **\$2.1M in annual savings** and a **15% reduction in device waste**, aligning with corporate ESG sustainability targets.

Stryker

Intern

https://www.stryker.com/in/en/index.html

Jun 2018 - Jun 2019

Gurugram

Medical Device Cloud Connectivity Optimization

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Redesigned legacy medical device cloud integration platform, implementing secure remote firmware updates (HTTPS/MQTT) and bidirectional RPC capabilities to enable over-the-air configuration changes.

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Eliminated **85% of onsite service visits** by sales teams, achieving **\$1.8M in annual operational savings** while supporting **2,400+ connected devices** across 37 hospital networks.

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Introduced version control and rollback features, reducing device downtime during updates by **70%** and strengthening compliance with FDA 21 CFR Part 11 guidelines.

National Physical Laboratory

Intern

https://www.nplindia.org

Jan 2017 - Jun 2017

New Delhi

Precision Instrumentation Engineer

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**Revitalized Critical National Infrastructure:** Spearheaded emergency repair of India's primary reference-grade goniophotometer (360° light measurement system) after catastrophic motherboard failure, preserving the nation's SI-compliant luminous intensity calibration capabilities.

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**Custom NI-Based Control System:** Engineered a National Instruments (NI) DAQmx/LabVIEW solution to replace legacy hardware, developing:

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Automated 3-axis motion control system with <0.1° positioning accuracy

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Traceable photometric data acquisition framework compliant with BIPM standards

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Self-diagnostic routines reducing future maintenance downtime by 60%

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**Enhanced Metrological Performance:** Achieved **0.3% measurement uncertainty** (improved from 1.2% in legacy system) through algorithmic optimization of spatial response correction factors.

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**Strategic Industry Impact:** Restored calibration services for **17+ major lighting manufacturers** (including Havells and Philips India), preventing estimated **₹420M in annual industry losses** from uncalibrated products.

Education

Thapar University

Electronics Instrumentation and Control

7.97

https://www.thapar.edu

August 2013 - August 2017

Bachelor of Engineering

Leadership & Organizational Experience

*(Bachelor's Degree Activities)*

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**Cultural Fest President:** Directed a 150+ member team to execute a 5-day festival with 3,000+ attendees, managing ₹8L+ budgets, vendor negotiations, and cross-departmental coordination.

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**Skill Development:** Cultivated strengths in conflict resolution, agile prioritization, and stakeholder communication—later applied to technical team leadership in professional settings.

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**People Operations:** Mentored 20+ society members across event planning, marketing campaigns, and finance tracking, improving team retention by 40% year-over-year.

*While not directly technical, this experience shaped my approach to collaborative problem-solving, deadline-driven execution, and aligning diverse teams toward shared goals—skills I actively apply in technical leadership roles.*

Thapar University

Electronics Instrumentation and Control

7.23

https://www.thapar.edu

September 2017 - June 2019

Master of Engineering

This was in project based Masters Degree, where almost I spent my second year working at Stryker. I did participate in some activities, but this time I was more focused on learning real world skills.

Skills

C#

.NET

SQL

ASP.NET

Microservices

Docker

Kubernetes

Azure

PKI

Interests

Swimming

Cooking

Gadgets

Languages

English

Punjabi

Hindi