# Anil Kumar

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## Education

**National Institute of Technology, Kurukshetra** — Kurukshetra, India
*Bachelor of Technology in Computer Science (CGPA: 8.55/10.0)* — *2022 – 2026*

**Adarsh Vidhya Mandir** — Mount Abu, India
*AISSCE - Class XII (Percentage: 93.80%)* — *2019 – 2021*

## Experience

**Rupyy (CarDekho Group)** — Jan 2026 – July 2026
*Software Engineer Intern (Backend Engineering)* — *In-Office*

- **Automated core financial logic from scratch** using **NestJS (TypeScript)** to process scalable revenue calculation, bank invoicing systems, and contract asset tracking workflows, reconciling revenue across a legacy portfolio of **1,000,000+ loans** in close coordination with the finance team prior to production go-live and reducing manual processing time from a week to ∼**15 minutes**.
- Engineered an **asynchronous I/O pipeline using pre-signed AWS S3 URLs** to offload file uploading overhead directly to the client, decreasing backend server compute load by ∼**80%** and improving concurrent upload handling capabilities.
- Architected a flexible configuration engine utilizing dynamic structural schemas on **MySQL**, reducing the engineering time required to deploy new multi-variant loan configurations from ∼**2 days to ∼20 minutes**.
- Implemented rigorous **data validation pipelines** to verify amortization logic—ensuring contract assets resolved to exactly zero at loan maturity and total principal was fully recovered—achieving **100% accuracy** in automatically flagging discrepancies in bulk loan uploads.
- Designed a conditional variance engine for operational deviations post-revenue lock, implementing state-machine validation and automated multi-level approval workflows that accelerated exception-handling turnaround times by ∼**35%**.
- Developed a comprehensive, application-wide **Audit Trail framework**, wrapping database transactions to intercept, serialize, and index operations across **75,000+ reconciled loans** into immutable tracking schemas, cutting discrepancy investigation time from hours to minutes.

## Technical Projects

**Pcom-Go** | ***Go, Performance Engineering*** — Jan 2025 – Jun 2025

- Built a high-performance parser combinator library in Go featuring a custom checkpoint/rollback system, yielding a **3x performance improvement** during execution of nested parsers.
- Designed fully backtracking, color-coded error handling architectures that optimized troubleshooting workflows, reducing developer debugging loops by ∼**50%**.

**govalid** | ***Go, GitHub Actions*** — Jul 2025 – Oct 2025

- Contributed core systems for v1.4.0 and v1.5.0 open-source releases through iterative PR review and design discussion with maintainers, introducing a registry-based system for high-performance validator automation to maximize extensibility.
- Enhanced validation robustness by introducing concurrent multi-error collection per validation cycle, field-path structural tracking, and fully automated multi-platform CI workflows.

## Technical Skills

**Languages & Frameworks**: TypeScript, NestJS, Go, Java, Python, React, Next.js, Node.js, C/C++, JavaScript
**Databases & Tools**: MySQL, PostgreSQL, MongoDB, SQL, Redis, AWS S3, AWS RDS, AWS SQS, Git, Linux, Docker, GitHub Actions
**Core Coursework**: Data Structures & Algorithms, Operating Systems, DBMS, Distributed Systems, Compilers

## Certifications

**Practical Ethical Hacking Complete Course** – TCM Security
**Complete Go for Professional Developers** – Frontend Masters