# ASHWANI RAWAT

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## Professional Summary

Final year B.Tech student in Electronics and Communication Engineering, Data Science, with strong foundations in Data Structures, Algorithms, and Object Oriented Programming. Hands on experience in developing optimization algorithms, scalable machine learning systems, and full stack applications using Python and Java. Demonstrated ability to design structured and modular solutions and validate system performance through systematic testing and benchmarking. Strong analytical thinker with a problem solving mindset and adaptability to enterprise scale technology environments.

## Education

**SRM Institute of Science and Technology, Chennai** 2022 to 2026
Bachelor of Technology, Electronics and Communication Engineering, Data Science
CGPA: 7.19

## Technical Skills

**Programming Languages:** Python, Java, C

**Core Computer Science:** Data Structures, Algorithms, OOPS, Time and Space Complexity, Recursion, Debugging, SDLC

**Web and Application Development:** React.js, Flask, REST APIs, Modular Architecture

**Machine Learning and AI:** CNN, Transfer Learning, Cross-Validation, Performance Metrics, F1-Score, ROC-AUC

**Optimization Techniques:** Genetic Algorithms, Heuristic Search, Constraint Handling, Fitness Function Design

**Database Technologies:** MySQL, Structured Data Modeling

**Cloud and Tools:** Oracle Cloud Infrastructure, OCI, AWS Foundations, Git, GitHub, Jupyter Notebook

**Coding Platforms:** LeetCode, HackerRank, Data Structures and Algorithms practice

## Projects

**Multimodal Deep Learning Framework for Lung Cancer Classification**

- Designed a scalable multimodal architecture integrating CT image features and structured clinical data.
- Implemented CNN-based feature extraction and neural network fusion techniques.
- Applied stratified cross-validation and class imbalance handling for improved generalization.
- Focused on reproducibility, hyperparameter tuning, and performance benchmarking.

**Genetic Algorithm for Vehicle Routing Optimization**

- Developed a custom chromosome encoding strategy to solve the Vehicle Routing Problem, VRP.
- Implemented selection, crossover, and mutation operators with constraint-aware fitness evaluation.

- Conducted multiple benchmark runs to enhance convergence stability and optimization robustness.

**AI-Powered Invoice Automation System**

- Built a full-stack web application for invoice processing and workflow automation.
- Implemented modular, object-oriented backend design with RESTful APIs.
- Designed structured database schema for efficient and scalable data handling.

**Medical Supply Chain Analytics and Modeling**

- Modeled healthcare logistics workflows using structured data representation techniques.
- Identified process inefficiencies and optimization opportunities through analytical evaluation.

## Certifications

- Oracle Cloud Infrastructure 2025 Certified, Generative AI Professional.
- Generative AI Foundations, upGrad and Microsoft.
- AICTE, Java Full Stack with React.js and AI.
- AWS Cloud Practitioner Practice Modules.