# ARUN KUMAR RAVULA

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## Professional Summary

Results-Driven M.Tech Computer Science Engineer specializing in AI/ML, NLP, and Computer Vision with experience in REST API Development, Data Pipelines, and scalable software solutions. Proficient in Python, PyTorch, TensorFlow, and Scikit-learn with the ability to build, train, and deploy end-to-end Machine Learning systems.

## Education

**Higher Secondary (S.S.C) – 92%** June 2011 – May 2019
- Vignan High School, Hanamkonda

**Senior Secondary (Board of Intermediate Education) – 90%** June 2019 – April 2021
- Narayana Junior College - MPC, Hyderabad

**Master of Technology - 8.33 CGPA** June 2021 – May 2026
- Vellore Institute of Technology - Integrated M.Tech (CSE)

## Projects

**Floor Cleaning Robot (Arduino C)** June 2022 – Dec 2022
- Designed and developed a floor-cleaning robot using Arduino, ultrasonic sensors, and motors for autonomous navigation, achieving 20+ test runs with zero collisions.
- Implemented sensor-based real-time movement control to improve obstacle detection and navigation accuracy.

**Smart Car Parking System (Raspberry Pi)** Jan 2023 – June 2023
- Developed a Smart Car Parking System using Raspberry Pi, Computer Vision, and Python, supporting 10 parking slots with 95%+ detection accuracy and reducing search time by 60%.
- Built OpenCV pipeline for real-time vehicle detection and automated slot monitoring for parking management.

## Experience

**Internship-Artificial Intelligence** (SkillVertex) July 2024 – Aug 2024
- Developed and deployed 3 ML models (NLP, Computer Vision) using Python, Scikit-learn, and PyTorch; built OOP-based REST APIs with JDBC-SQL storage following MVC design pattern.
- Implemented data preprocessing, model tuning, and end-to-end ML workflows.
- Cross-functional collaboration across 5-member, contributing to real-time testing and 2 deployment milestones using Agile.

**Auto Grade System using NLP (GitHub)** Sep 2025 – Jan 2026
- Developed an automated grading system using NLP and OCR to process handwritten and model answers, applying TF-IDF and cosine similarity for accurate grading and automated result storage.
- 500+ answer scripts, 87% grading accuracy, 87% reduction in grading time.

## Tech Stack

**Programming Languages :** Python, Java, SQL, HTML, CSS.

**AI / ML :** Machine Learning, NLP, LLMs, BERT, TensorFlow, PyTorch, Scikit-learn, OpenCV, OCR, TF-IDF, Data Pipelines, Real-Time Processing.

**Data Analytics & Visualization :** Pandas, NumPy, Excel, Power BI, Tableau, KPI Dashboards, Report Automation.

**Frontend & Backend :** REST API Development, Node.js, OOP, Design Patterns (MVC, Repository, Singleton), JDBC.

**DevOps & Cloud :** AWS, Docker, Kubernetes, Jenkins, CI/CD Pipelines, Git, GitHub, Linux.

**Testing & Databases :** Pytest, JUnit, TDD, Unit Testing, Integration Testing, API Testing, SQL, Relational Databases.

## Certificates

SQL & Python — Mind Luster | Data Science — Infosys Springboard | Artificial Intelligence — Infosys Springboard.

## Soft Skills

Analytical Thinking, Problem-Solving, Communication, Adaptability, Leadership,Time Management, Critical Thinking