Pushkar Singh

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Education

IES IPS ACADEMY — Indore, Madhya Pradesh
Bachelor of Technology in Computer Science — *Sept 2023 - Present*

Experience

SAEINDIA BAJA, Indore — Jan 2025 – Present
AI/ML Team Member — *Indore, India*

- Developed real-time object detection, tracking and distance estimation using YOLO, DeepSORT and OpenCV for autonomous vehicles.
- Integrated perception models into IPG simulation environments to test emergency scenarios.
- Collaborated with the mechanical and electronics teams to align AI modules with embedded systems and sensor hardware.

Google Developer Student Club (GDSC) — Aug 2024 – Present
AI/ML Team Member — *Indore, India*

- Contributed to multiple community-based AI/ML projects for campus queries.
- Led a mini bootcamp on machine learning for new club members, covering Python, scikit-learn, and model deployment basics.
- Worked with cross-functional teams to integrate ML models with web applications.

Hackathons — 2023 – Present
Participant / Finalist — *Various Locations / Online*

- Built innovative solutions using AI/ML, web technologies (Flask, React), and embedded systems (Arduino).
- Developed the Flask backend for VeriFact-AI to enable real-time news verification using web scraping, NLP, and AI-based similarity search.

Projects

AI-Based Traffic Management System | *OpenCV, YOLO, Arduino, Python, ML, IoT* — 2024

- Developed an intelligent traffic control system that dynamically adjusts signal timings based on real-time traffic conditions.
- Implemented vehicle detection using YOLO and OpenCV to estimate traffic density.
- Integrated Arduino for physical signal control synchronized with detection logic.
- Applied adaptive signal control algorithms using ML models to optimize flow.
- GitHub Link

Customer Churn Prediction Model | *Keras, TensorFlow, Python* — 2024

- Built a deep learning model to predict customer churn by analyzing behavioral and transactional data.
- Enabled businesses to identify high-risk customers and design targeted retention strategies.
- GitHub Link

Autonomous Object Detection and Path Following Robot | *Arduino, Sensors, C/C++* — 2023

- Designed and programmed a self-navigating robot using Arduino, motor drivers, and IR sensors.
- Implemented object detection and line-following logic for autonomous path navigation.
- GitHub Link

Technical Skills

Programming Languages: Python, Java, C++, MATLAB, SQL (MySQL)
Libraries & Frameworks: NumPy, Pandas, Matplotlib, Seaborn, OpenCV, Flask, FastAPI
Machine Learning & AI: Machine Learning, Deep Learning, Computer Vision
Developer Tools & Platforms: Git, Figma, Arduino
Data Analysis & Visualization: Power BI, Excel