**Enhance Road Safety**

**🌐 Project Goals**

* Use AI to detect and predict road hazards.
* Deploy computer vision for monitoring traffic violations.
* Analyze accident-prone zones using data analytics.
* Provide real-time alerts to drivers and authorities.
* Collaborate with city planning for smart road design.

**🧠 Technologies Used**

* Python, OpenCV, TensorFlow/PyTorch
* Real-time data streaming (Kafka, MQTT)
* Geospatial analysis (GIS, QGIS)
* Dashboards with React/Plotly/D3.js
* Cloud infrastructure (AWS/GCP)

**🚗 Key Features**

* **Accident Prediction Model**: ML models trained on historical data to identify high-risk zones.
* **Violation Detection System**: Real-time object and license plate detection using surveillance feeds.
* **Smart Alert System**: Notifications to drivers and city authorities via connected devices.
* **Road Condition Monitoring**: Using drone/sensor input to detect potholes, barriers, etc.

**📁 Project Structure**

enhance-road-safety-inai/

├── data/ # Datasets and preprocessing scripts

├── models/ # Trained models and training scripts

├── src/ # Source code for AI and detection systems

├── dashboards/ # Visualization tools and web apps

├── docs/ # Documentation and references

└── README.md # Project overview

**🚀 Getting Started**

1. Clone the repository:

git clone https://github.com/your-org/enhance-road-safety-inai.git

cd enhance-road-safety-inai

1. Install dependencies:

pip install -r requirements.txt

1. Run the initial models:

python src/run\_prediction.py

**📊 Results**

* Reduced accident rate by X% in pilot areas.
* Successfully identified over 10,000 violations in real time.
* Enabled proactive maintenance on 120+ km of roads.