


AI4ICPS Chanakya UG, PG and PhD Fellowship: One-Page Overview

Biography

UID	[To be filled by AI4ICPS]			
Name	Aryan Agarwal			
Department	Computer Science and Engineering			
UG/PG/PhD	UG	Year of Enrollment	2019	
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Supervisor name (with Prefix) and affiliation	Dr. Soumya K. Ghosh, IIT Kharagpur			
Area of Research	Deep Learning, On-Device ML, Geographical Information Systems			

About Research Work / Graphical Abstract

Title: Road Condition Categorisation and Mapping using Machine Learning Techniques

Abstract:

Our innovative road condition assessment application, powered by a custom Convolutional Neural Network (CNN) model, revolutionizes road maintenance and infrastructure planning. The cohesive architecture encompasses a feature-rich backend, a GeoServer, a secure database, an Android app and an intuitive web frontend. Within the android app, we've integrated on-device machine learning for local image classification and established a self-hosted image management system on the server. The user-friendly frontend offers a dynamic interface, while our GeoServer brings heatmaps to life with OpenStreetMap as the base map. This project harmoniously combines machine learning and web technologies, offering a transformative solution for infrastructure planning and maintenance.

Following figure shows a high level overview of our application.

