Project Design Phase-I

Proposed Solution Document

Problem Statement (Problem to be solved)

A naturalist is someone who studies the patterns of nature and identifies different kinds of flora and fauna in nature. Being able to identify the flora and fauna around us often leads to an interest in protecting wild spaces, and collecting and sharing information about the species we see on our travels is very useful for conservation groups like NCC.

When venturing into the woods, field naturalists usually rely on common approaches like always carrying a guidebook around everywhere or seeking help from experienced ornithologists. There should be a handy tool for them to capture, identify and share the beauty with the outside world.

Field naturalists can only use this web app from anywhere to identify the birds, flowers, mammals and other species they see on their hikes, canoe trips and other excursions.

Idea / Solution description

A web application which uses a deep learning model, trained on different species of birds, flowers and mammals (2 subclasses in each for a quick understanding)and gets the prediction of the species when an image is been given.

Novelty / Uniqueness

This solution offers easy access to details about various species of plants and animals acting as a guide for digital naturalists.

Social Impact / Customer Satisfaction

The app can be extended to enable naturalists with a community of other naturalists to share their findings and experiences. This creates a tight network for them to interact and learn more about the environments that they explore. Since the excursions are often to remote places, the app will be made to work offline as well offering no hassle in the user experience for the end users.

Business Model (Revenue Model)

Field naturalists and conservation organisations will profit, and this could result in income. The app can offer a premium subscription for access to more features. Additionally, advertisements might increase the product's revenue.

Scalability of the Solution

Naturalists, archaeologists, ecologists, biologists, and other scientists can use this to speed up the process of species identification so they can move forward with their study or task. Researchers, students, and members of scientific societies can use this to improve their learning experience.

Since the ML model will be trained over different inputs when more users use it over a continuous period, in the long run, the prediction becomes more accurate and hence this solution is scalable.