PROJECT OBJECTIVES

Team ID	PNT2022TMID52124
Project Name	Digital Naturalist - AI Enabled tool for Biodiversity Researchers

EMPATHIZE:

- These techniques have profoundly transformed our ability to extract information from visual data. AI techniques have been applied for a long time in security and industrial domains, for example, in iris recognition or the detection offaulty objects in manufacturing.
- They were nevertheless only recently made more widely accessible after their usein smart phone apps for face recognition and song identification.
- Combined with increasing access to cloud-based computation, AI techniques can now automatically analyze hundreds of thousands of visual data every day.

APPLICATION OF AI:

To biological recording have to date typically focused on active sampling, that is, images collected specifically for the purpose of recording wildlife (e.g., wildlife recording apps or camera traps). However, this has neglected large amounts of image data that are not collected for the purposes of biological recording, but which nonetheless may contain useful information about biodiversity.

This includes social media imagery (e.g., Flickr and Instagram), CCTV, and imagery collected along linear infrastructure (e.g., Google Streetview). These unexploited image data could be rapidly analyzed using “AI naturalists” designed to locate potential images of biodiversity and classify what they see.

HIGHLIGHTS:

- AI image classifiers can create biodiversity datasets from social media imagery.
- Images are spatially aggregated and represented by species.
- Images focused on a single, non-horticultural, plant are most reliably identified.