Capstone 1 Project Proposal

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Image recognition for invasive plants

In recent years it has been widely recognized that invasive plant species are a serious problem for biodiversity around the world. One of the main barriers that managers face when dealing with invasive plants is the lack of scientific knowledge to identify plant species in the field. Using deep learning techniques my objective is to aid and automate the process of species identification which will enhance our abilities to control invasive plants.

The main consumers for this project will be government agencies around the world interested in preserving natural ecosystems and control the highly invasive plant known as “kudzu”. Environmental managers will be able to make more accurate predictions about kudzu invasion and presence, thus making better decisions and increase efficient use of economic resources.

The data that i will use for this project comes from a curated dataset provided by kaggle and described as follows:

The data set contains pictures taken in a Brazilian national forest. In some of the pictures there is *Hydrangea*, a beautiful invasive species original of Asia. Based on the training pictures and the labels provided, the participant should predict the presence of the invasive species in the testing set of pictures.

My approach to solve this problem will be based on deep learning algorithms. I will use a subset of the images provided to train the algorithm and test for its accuracy. The first step will be to gain the knowledge necessary in deep learning by following the deep learning course in DataCamp.

The deliverables for this project will be the code used and a slide presentation to environmental managers describing the tool and how to use it.