Deep Learning - Project Proposal

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Question / Need:

- The need: a method to classify images (pictures) identifying types of trees. The client has a desire to start understanding the varieties of trees located in national parks so they can start identifying when a new tree species has appeared.

Client:

- The client is WeDontKnowTrees. They will benefit from this deep learning project as they are manually looking up tree species in books when seeing photos of a tree. This will drastically speed up the time of tree identification because they won't have to use books as often.

Impact:

- WeDontKnowTrees will be able to gain more confidence in knowing that they can now run an image of things like a truck against a python script and it will not be likely for it to return the recognition of something not a truck.

Data Description:

- The data being used is from the CIFAR-100 dataset located here. According to the University of Toronto description, this is the details:
    - data -- a 10000x3072 numpy array of uint8s. Each row of the array stores a 32x32 color image. The first 1024 entries contain the red channel values, the next 1024 the green, and the final 1024 the blue. The image is stored in row-major order, so that the first 32 entries of the array are the red channel values of the first row of the image.
    - labels -- a list of 10000 numbers in the range 0-9. The number at index i indicates the label of the ith image in the array data.

Tools:

- VSCode
- Python with respective libraries
- Google Sheets or Powerpoint

MVP Goal:

A minimum viable product would contain most of the proof-of-concept code with an example that the code works.