Name : Panneerselvam N
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Role : Research Intern - Inspect

Task: Data Collection

Transmission Lines and Towers

Dataset-1:
TTPLA: An Aerial-Image Dataset for Detection and Segmentation of Transmission Towers and Power Lines.

This dataset contains Tower structure and lines of pixel level annotations of coco fomat. Dataset size is 4.2GB.
Link : **https://github.com/r3ab/ttpla_dataset**

Dataset-2:
Mendeley Data :
In this dataset ,400 IR and 400 VL images are acquired and scaled to a size of 512x512. The IR folder contains IR images with power line, ground truths and overlay images of these images. The VL folder contains VL images with power line, ground truths and overlay images of these images.

Link : https://data.mendeley.com/datasets/twxp8xccsw/9

Dataset -3:
PLD-UAV :
This dataset contains Pixel wise annotations and images of power transmission line.

Dataset	Train	Test	Size	maxDist
PLDU	453	120	540X360	0.0075
PLDM	237	50	540X360	0.0075

PLDU : https://drive.google.com/open?id=1XjoWvHm2I8Y4RV_i9gEd93ZP-KryjJlm
PLDM : https://drive.google.com/open?id=1bKFEuXKHRsy0tnOnoEVW6oRi7hS5oekr
Repo : https://github.com/SnorkerHeng/PLD-UAV

Birds Nest :
Dataset-1
Supplementary Files: Deep Learning-Based Bird's Nest Detection on Transmission Lines Using UAV Imagery.

This dataset contains images of Bird's Nest with annotations of XML format in the size of 6.2GB.

Link : https://zenodo.org/record/4015912#.YL2kYZozZNh

Pins and Bolts :
Mechanical Parts dataset – Kaggle

This dataset contains categories of bolt, locating pin, Nut, washer . The total number of images is 7616. But this images are created with CAD design.

Link : https://www.kaggle.com/krishna8338/mechanical-parts-data

Insulator :

Dataset -1 :
Insulator Data Set - Chinese Power Line Insulator Dataset (CPLID)

This dataset contains both defect and normal insulators.
Normal Insulators : 600 images
Defect insulators ; 248 images
Link : https://github.com/InsulatorData/InsulatorDataSet.git

Dataset 2:
The collection of images of an insulator taken outdoors in varying lighting conditions with additional laser spots.

This dataset contains 2630 images which manually taken by varies outdoor conditions like grass and trees. It also contains annotation of images.

Info :https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5996289/
Dataset : https://cv.po.opole.pl/dataset1/

TensorFlow Learning:

Today I have learned model sub classing technique for CNN architecture building. This method has more customization than Functianal API. We can create our own layers and add model blocks. I have implemented simple CNN with Residual blocks for CIFAR-10 datasets. Its gives 94% accuracy.

https://colab.research.google.com/drive/1Ki1RgdbhuRxm29AttXPcKbpTaOUsiMVU?usp=sharing