

Satellite Image Classification with Tensor Flow + ImageAI + Hopfield Network Simulation + Ising Models -> A Simple & Short Technical Communication on Using Python + Deepstack AI Server + E Theorem Prover involving Smart Devices + IoT + HPC Heterogeneous Systems.

Dr.Nirmal - Informatics R&D - Current Member - ante Inst UTD Dallas TX USA.
Contact_info - hmfg2014@gmail.com

[I] Main Idea + Inspiration + Introduction :

"Satellite image classification is undoubtedly crucial for many applications in agriculture, environmental monitoring, urban planning, and more. Applications such as crop monitoring, land and forest cover mapping are emerging to be utilized by governments and companies, and labs for real-world use. In this tutorial, you will learn how to build a satellite image classifier using the TensorFlow framework in Python. We will be using the EuroSAT dataset based on Sentinel-2 satellite images covering 13 spectral bands. It consists of 27,000 labeled samples of 10 different classes: annual and permanent crop, forest, herbaceous vegetation, highway, industrial, pasture, residential, river, and sea lake."

[source -> <https://www.thepythoncode.com/article/satellite-image-classification-using-tensorflow-python?>]

[II] R&D Informatics Framework Using Tools Mentioned :

You could generate your own informatics framework using the above mentioned tools.

Our approximate attempt/s in fine tuning the code with E Theorem Prover + ImageAI + Hopfield Networks -> Satellite Image Classification.

We are observing some of the BEST results with our Ideas + Algorithms hence, this simple technical communication.

Rigorous Testing in Progress @ the TIME of Submission with interesting Observations.

With Thanks - Nirmal.

[III] Important References :

[a] <https://colab.research.google.com/drive/1SVpaW9HSebpHNYf6LXTm7elnHOSdQA5i?usp=sharing>

[b] <https://github.com/zftan0709/Hopfield-Network> -> an Excellent Info on HPF Networks.

[c] <https://github.com/tejdkn-2019-ShortNotes> -> Plenty of Examples - From Dr.Nirmal - Informatics R&D.

[d] <https://colab.research.google.com/github/rajeshrinet/compPhy/blob/master/notebooks/2014/IsingModel.ipynb>

[e] <https://deepstack.cc/> -> AI Server to store our Complex Data involving Satellite Images.

[IV] Acknowledgment/s : Sincere Thanks to all. Inspire others always. Non-Profit R&D.

[V] Conclusion/s with Future Perspectives : One of the BEST R&D Approaches as a Pioneering Effort in this Domain. Keep Hacking/Keep Going/Keep Rocking the SHOW ALL THE BEST. Try & See the "Difference" for Yourselves. Thanks for your Support.

[THE END]