Tropical Cyclone Wind Estimation from Satellite Imagery

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Goals and objectives

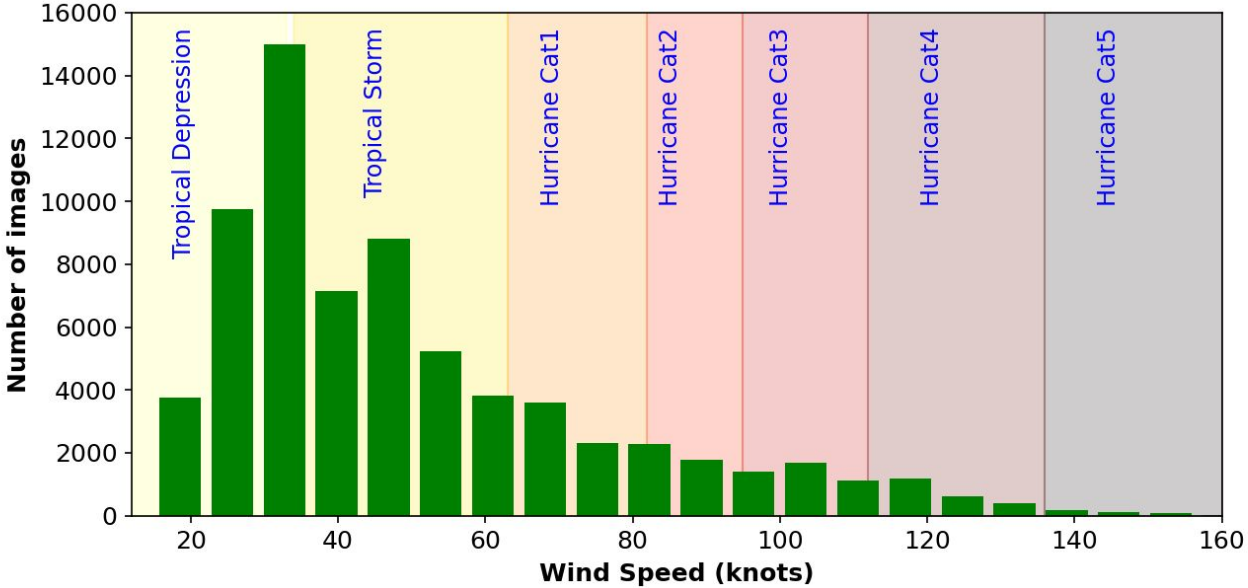
Overarching goal: Using satellite imagery and deep learning for forecasting intensity of tropical cyclones + implement ML with limited resources

- An example of accessing and loading data from Radiant MLhub
- Image processing and data augmentation (reshape, rotate, etc.) with Python
- Exercising functionality of Python libraries (numpy and pandas)
- Setting up, training, and testing a convolutional neural network forecast model
- Discussing results and final remarks

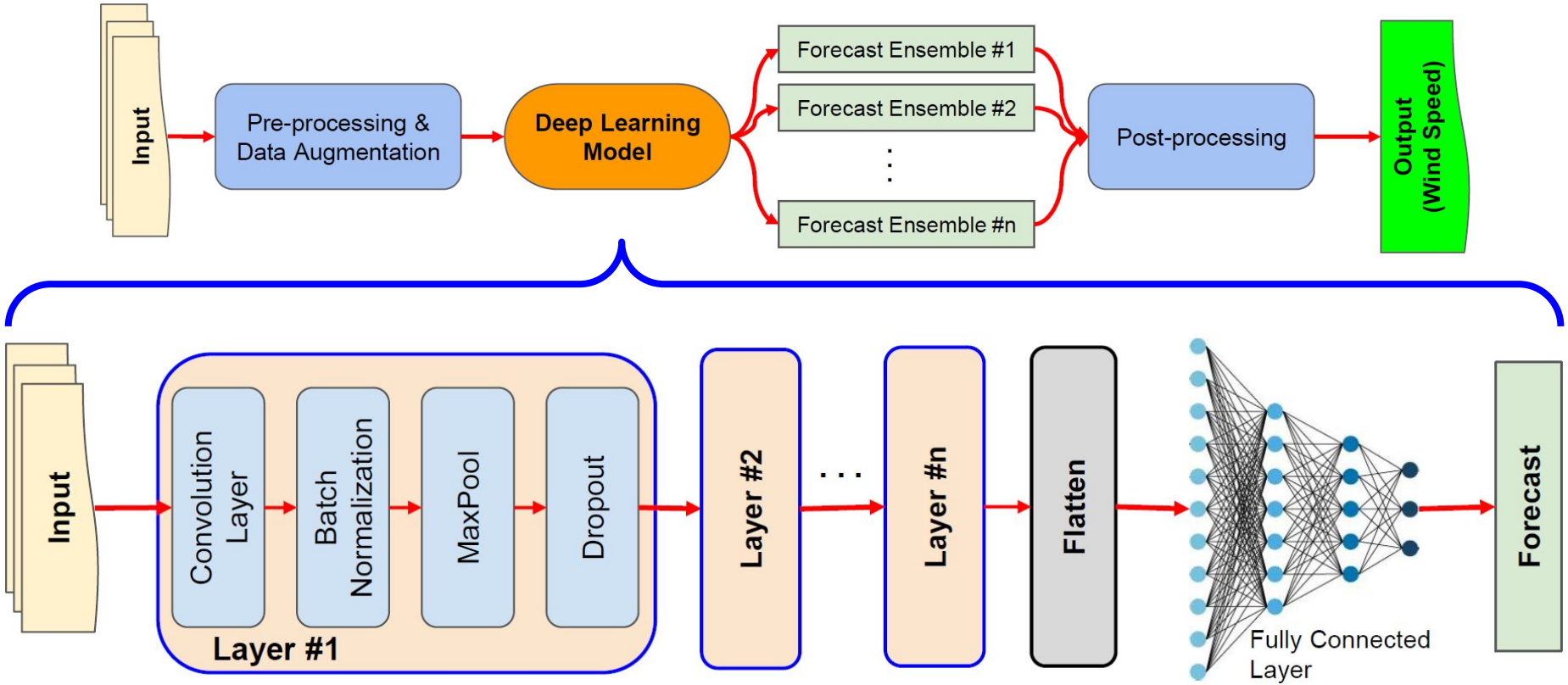
Results and a summary are published here:
https://www.linkedin.com/pulse/deep-learning-computer-vision-satellite-imagery-ali-ahmadalipour/

Data

- 70,000+ satellite images from ~500 storms



Methodology



Results

Fitting 10 models with various architectures and different hyperparameters