Creating a deep learning based Flood Inundation Model to predict the flood vulnerability for the NorthEastern Region of India.

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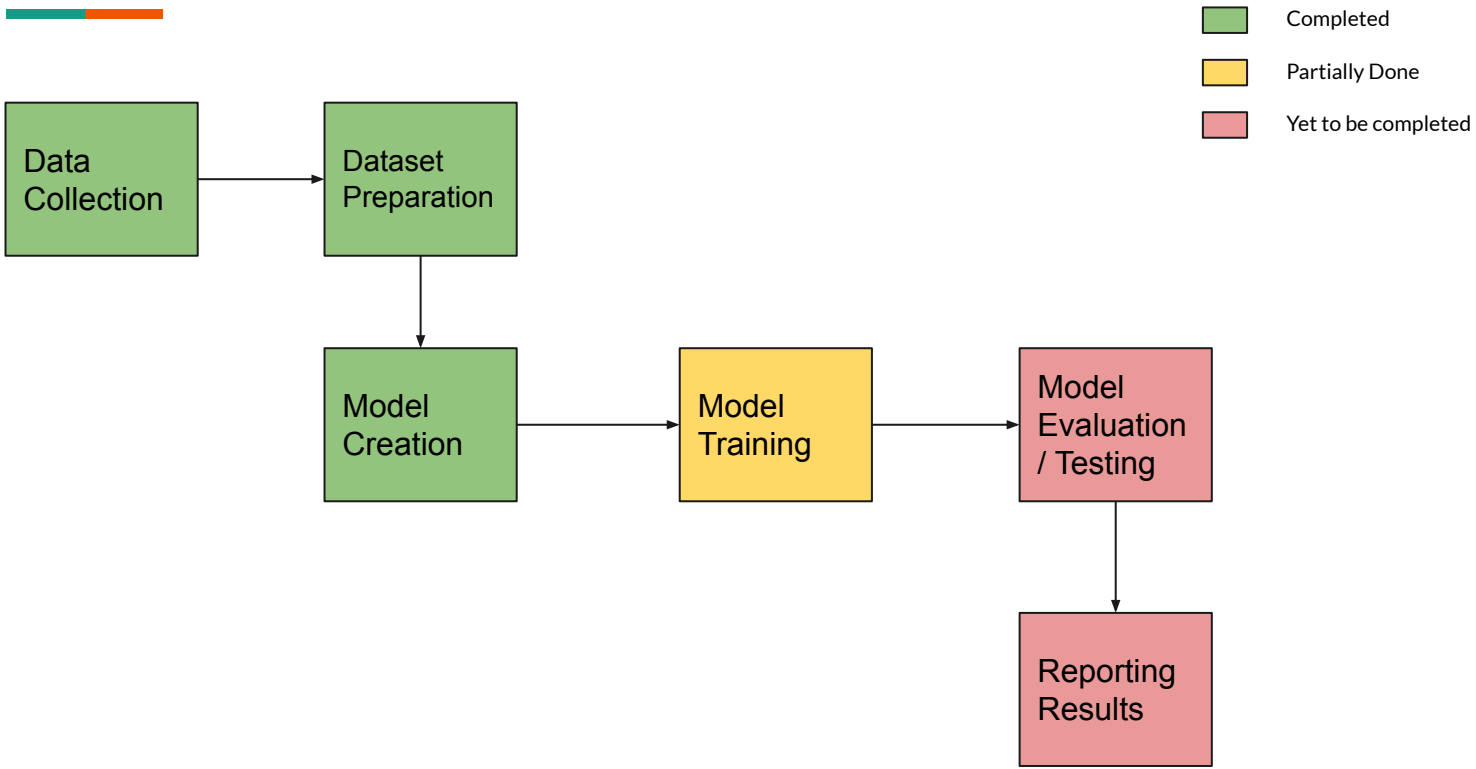
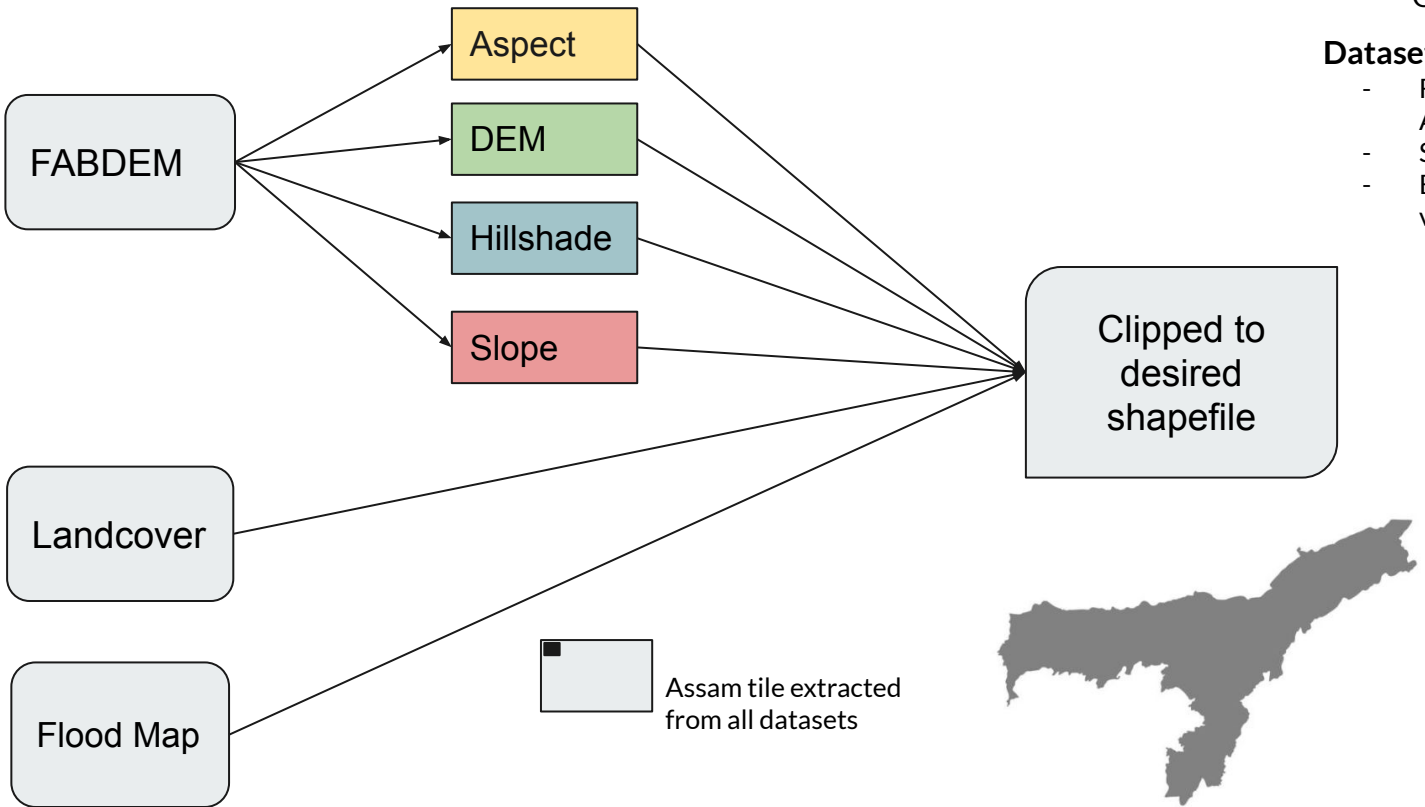
Objective

1. Creating a model which can predict the flood vulnerability of a region based of various spatial inputs.
2. Unlike the hydrodynamic models, our deep learning based approach attempts to reduce the inference time of flood prediction for a particular area.

Workflow of the project



Data Collection



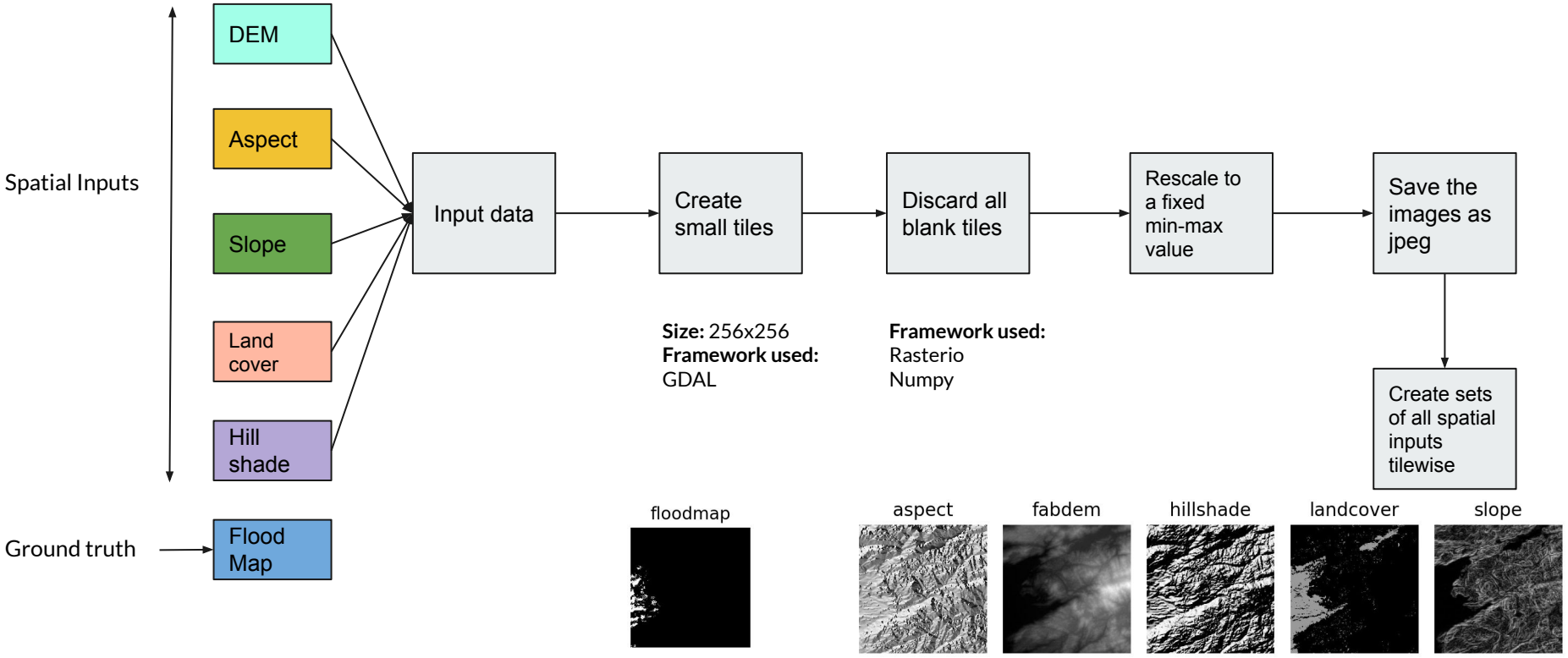
Technologies used:

- Earth Engine api
- GDAL

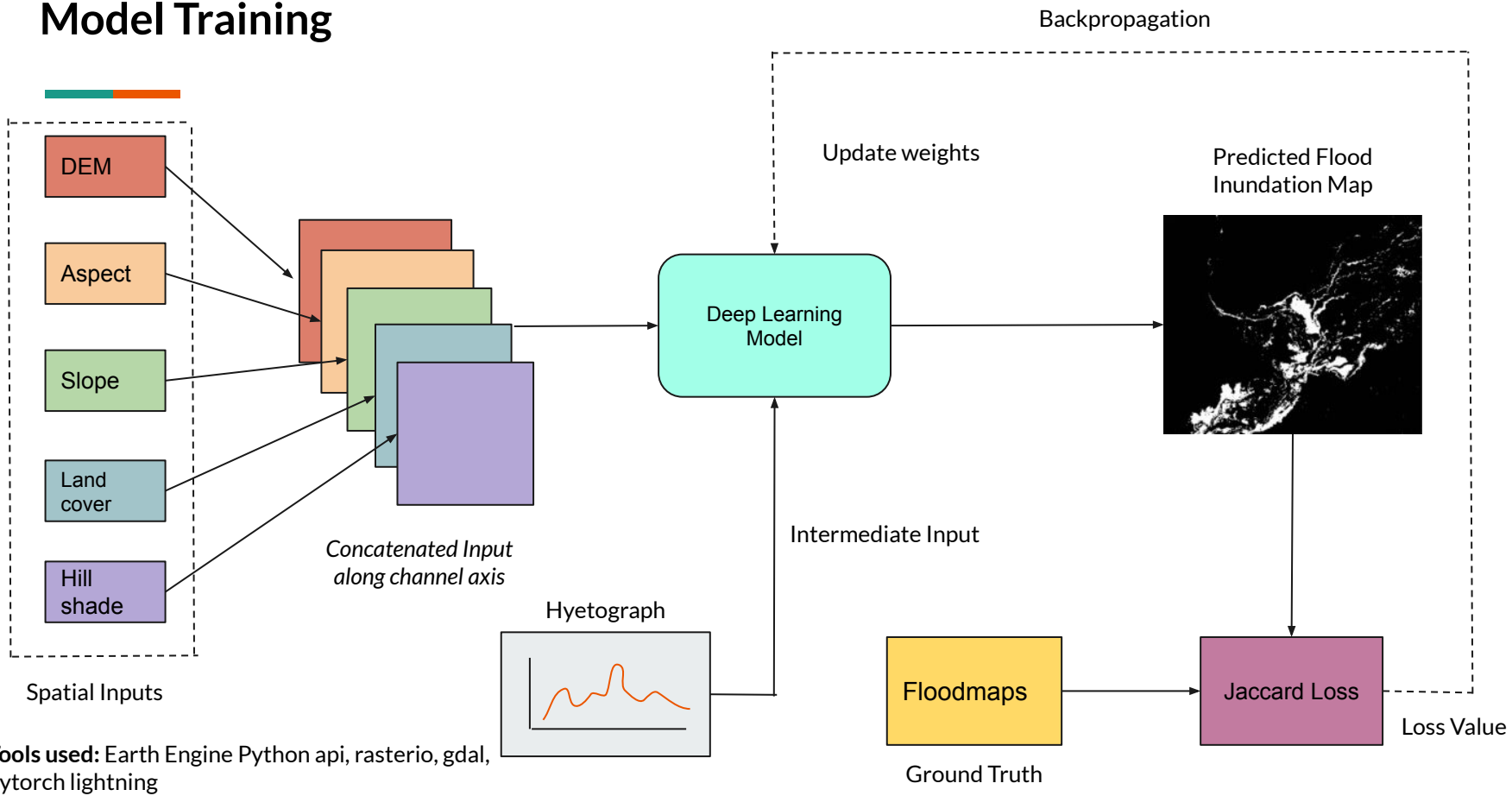
Datasets used :

- FABDEM (India and Assam coordinates data)
- Sentinel-1 SAR data
- ESA Worldcover 10m v100

Data Preparation

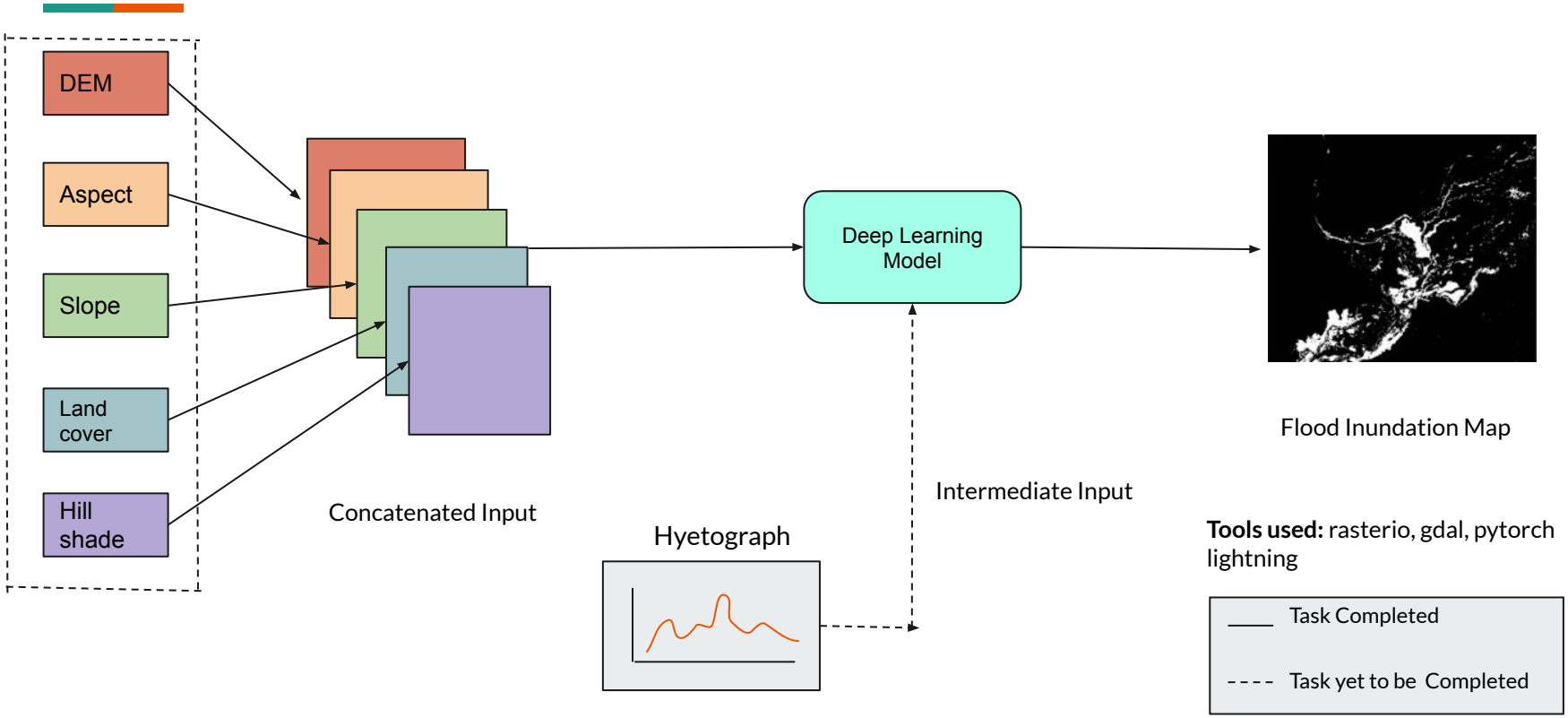


Model Training



Tools used: Earth Engine Python api, rasterio, gdal, pytorch lightning

Model Evaluation



Thank you for your attention.