RNN-based Multi-Source Land Cover Mapping: Application to a West African Agricultural Landscape

Gbodjo Y.J.E., Ienco D., Leroux L., Interdonato R., Gaetano R., Ndao B.

Motivations

- LULC maps are majors inputs for crop monitoring systems and early monitoring systems especially in Southern countries to ensure food security

- Nowadays a huge amount and varied source of remote sensing data (radar and optical time series) are publicly available and can be leveraged to improve LULC maps

- However, only marginal advances have been made in multi-source LULC mapping; Existing approaches used traditional ML algorithms (SVM, RF) which don't leverage temporal and spatial dependencies

OB2SRNN: Object-Based 2 Stream Recurrent Neural Networks

- Design a DL model to combine Sentinel-1 and 2 time series with an attention mechanism