



Deeper Insights

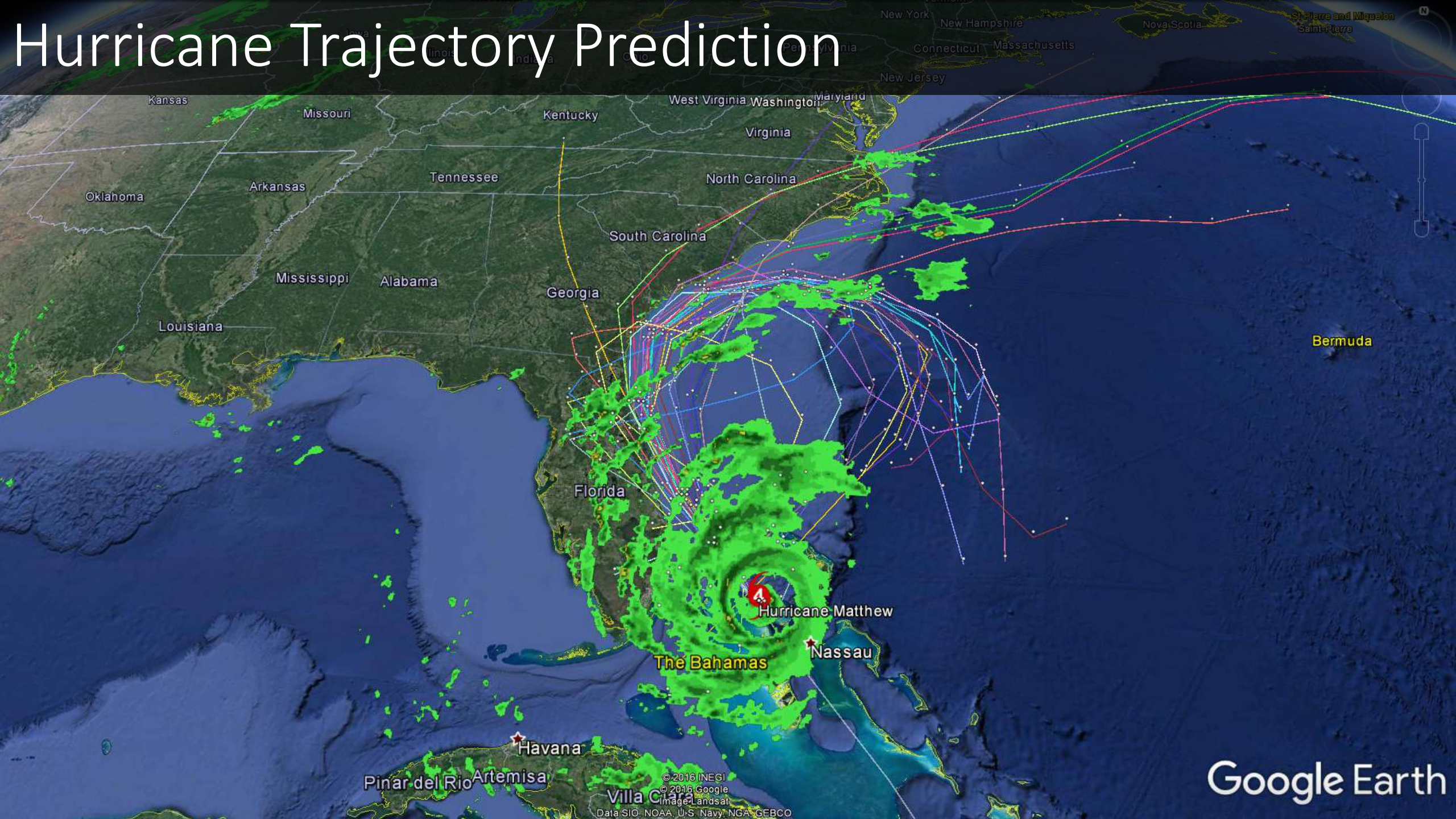
Developing a Deep Learning Algorithm for Climate Change Prediction

The Problem



According to the Department of Civil Engineering and Environmental Sciences at LMU, climate change projections continue to be dominated by large uncertainties.

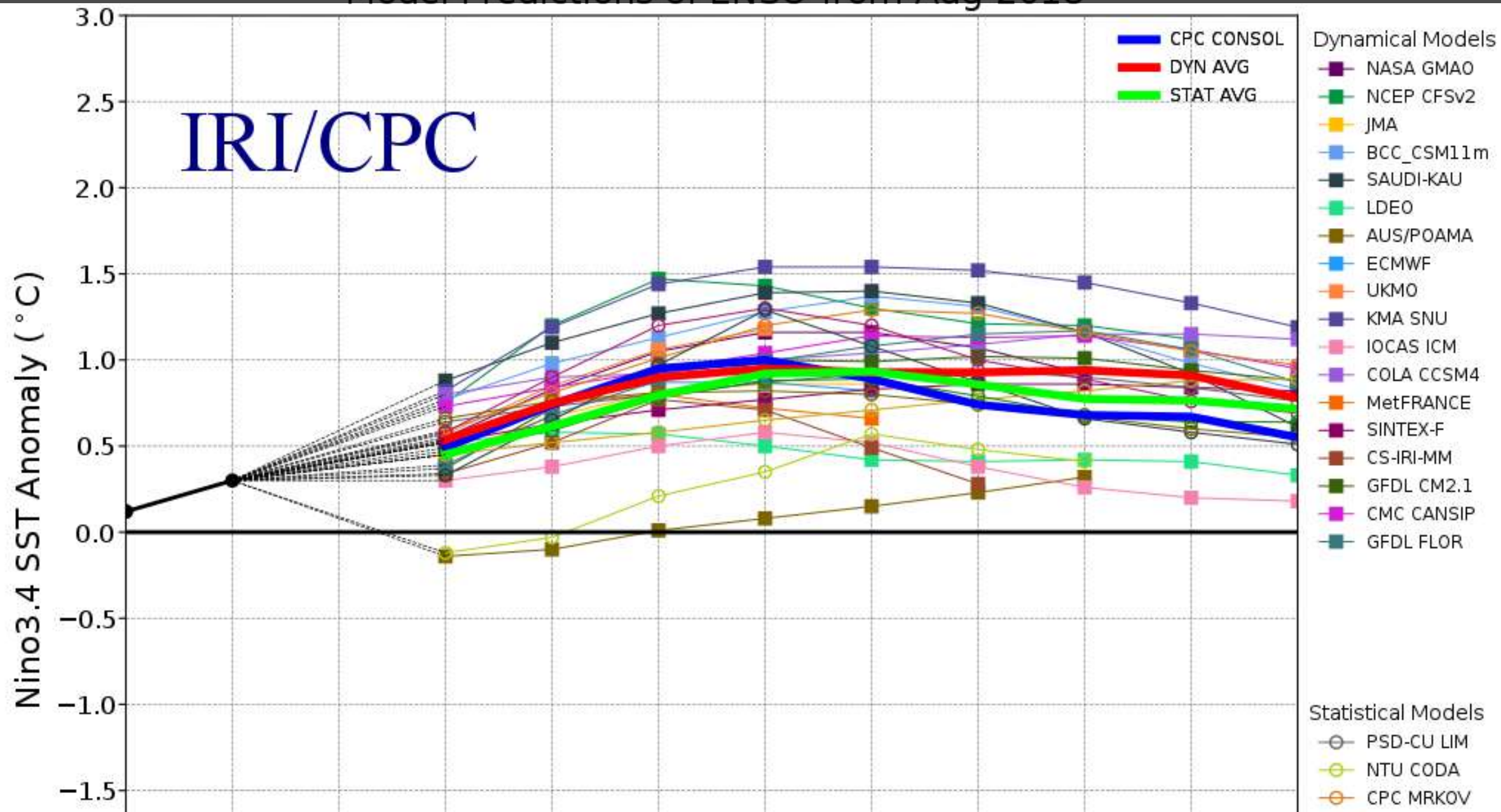
- Complex dynamic models
- Outdated statistical models
- Computationally inefficient “ensemble methods”



Hurricane Trajectory Prediction

Predicting El Niño

Model Predictions of ENSO from Aug 2018

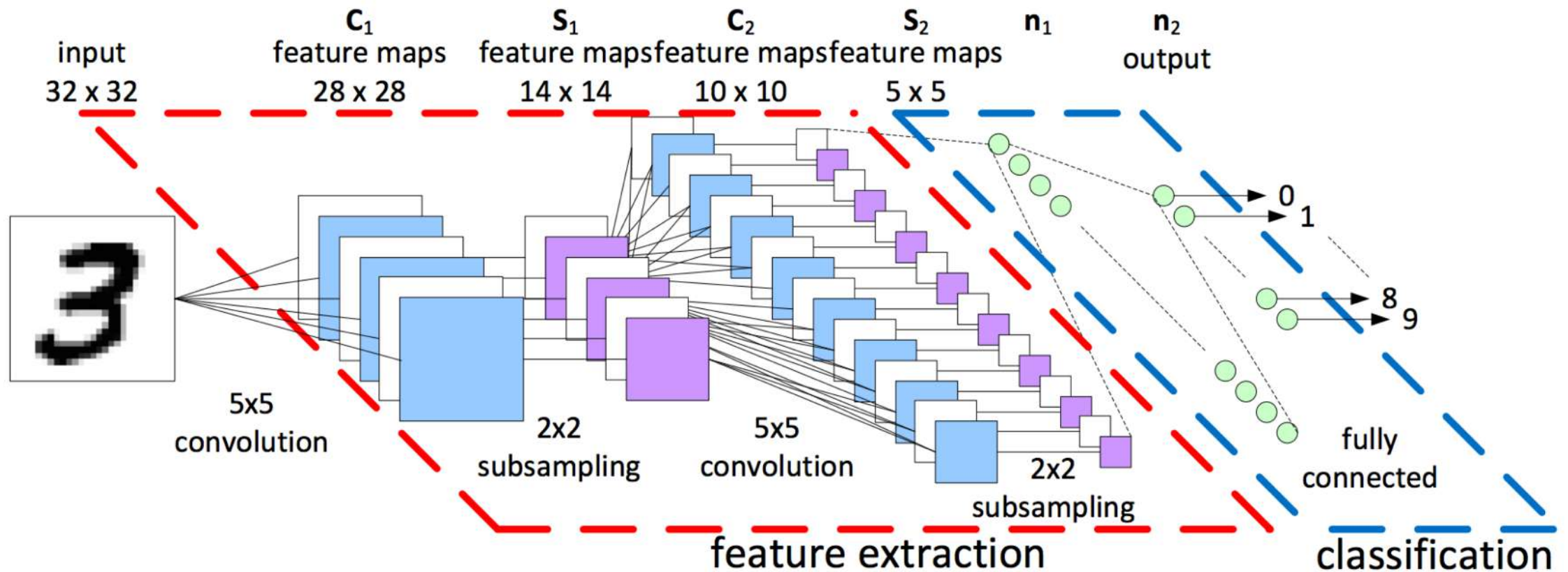


The Solution

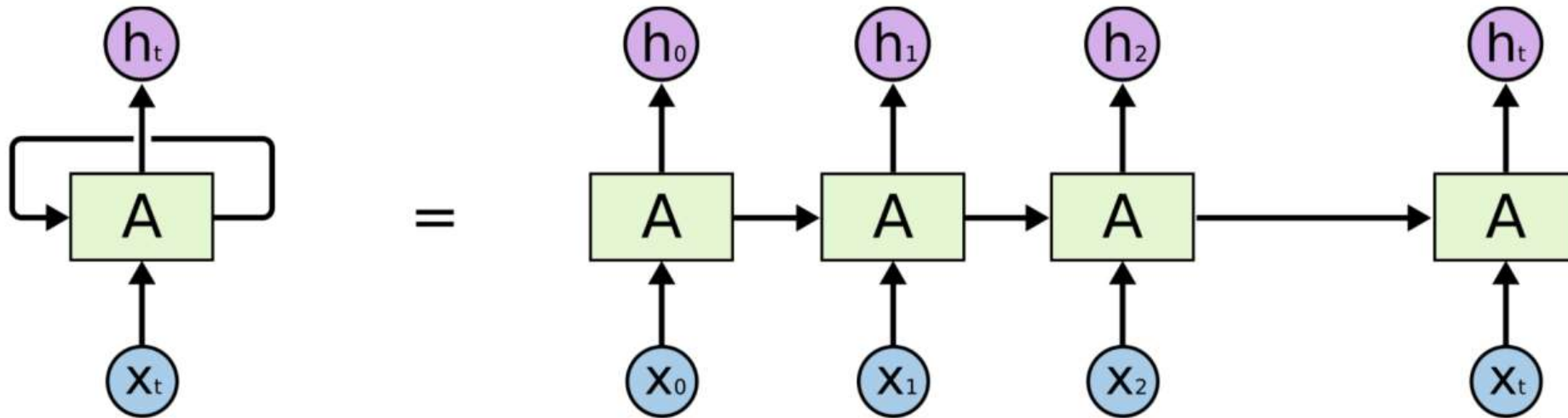
Thanks to recent research in the field of Artificial Intelligence, in particular the success of Deep Learning algorithms to take advantage of big data, combined with the availability of Earth observations from space and from the ground, breakthroughs appear to be within reach.

- Deep Learning Algorithms
- High availability of data
- Cheap accessibility to cloud computing

Convolutional Neural Networks



LSTM Networks



The Challenges

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- Harness the power of big data
- Defeat the accuracy of currently used statistical and dynamical models
- Produce an algorithm that is fast and simple