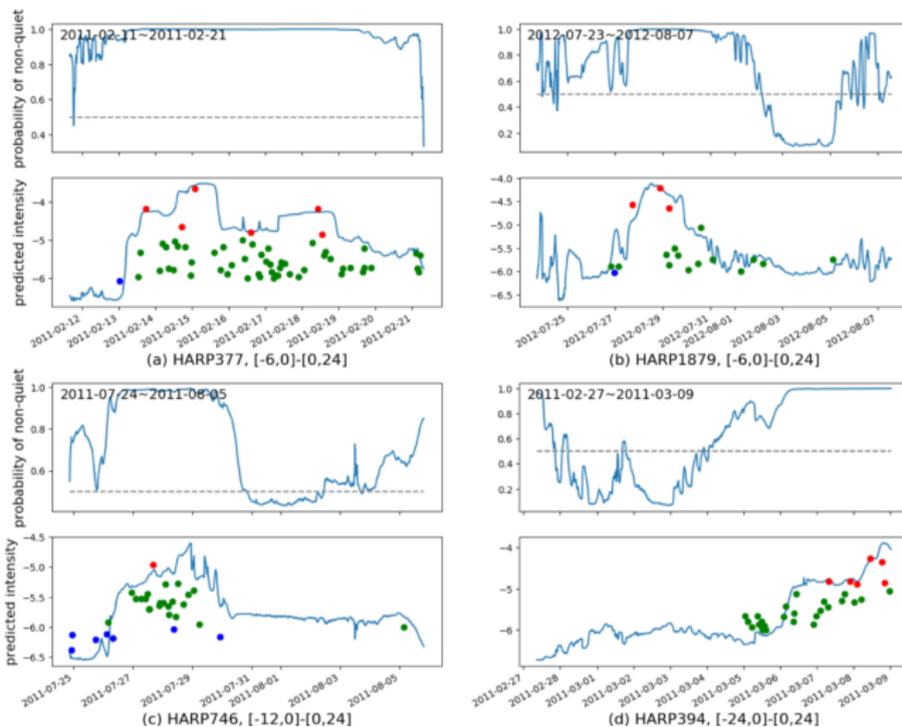


Solar Storms & Terrestrial Impacts Center (SOLSTICE)

- Lead PI: Tamas Gombosi, University of Michigan
- Yang Chen: Co-PI, lead on flare prediction and related ML tasks
- Our progress (in flare prediction) so far
 - identifying precursors of flares, Chen et al. Space Weather 2019.
 - solar cycle dependence, Wang et al. ApJ 2019.
 - flare intensity prediction, Jiao et al. Space Weather 2020.
 - interpreting flare prediction, Sun et al. Arxiv: 1912.12360.
- Current and ongoing: stay tuned.

Results from Mixed LSTM Regression



References

- Y. Chen, W.B. Manchester, A.O. Hero, G. Toth, B. DuFumier, T. Zhou, X. Wang, H. Zhu, Z. Sun, and T.I. Gombosi, *Identifying Solar Flare Precursors Using Time Series of SDO/HMI Images and SHARP Parameters*, Space Weather (2019), 17(10), 1404-1426..
- X. Wang, Y. Chen, G. Toth, W. B. Manchester, T. I. Gombosi, A. O. Hero, Z. Jiao, H. Sun, M. Jin, Y. Liu, *Predicting solar flares with machine learning: investigating solar cycle dependence*, The Astrophysical Journal (2020), 895(1), 3.
- Z. Jiao, H. Sun, X. Wang, W. Manchester, T. Gombosi, A. Hero, Y. Chen, *Solar Flare Intensity Prediction with Machine Learning Models*, Space Weather 18.7 (2020): e2020SW002440.
- H. Sun, W. Manchester, Z. Jiao, X. Wang, Y. Chen, *Interpreting LSTM Prediction on Solar Flare Eruption with Time-series Clustering*, arXiv:1912.12360.