Proposal Group 5 : Solar Flares Prediction

Problem:
Building a solar flares prediction model

Dataset:
Kaggle Solar Flares dataset
https://www.kaggle.com/khsamaha/solar-flares-rhessi?select=hessi.solar.flare.UP_To_2018.csv
The dataset contains some useful features such as peak rate, total flare counts and the energy band of the flare, which can be used for the prediction of solar flares.

Proposed Solution and Real world Application :
Our proposed solution is to use historical data of solar flares to train a model that can predict solar flares in the future. Solar flares sometimes impact a lot of the earth's activities through radio blackouts. Our goal is to analyze the observed data and train a model to predict its future activities using dates, regions, and energy.

Training a model can help us predict the incoming solar flare and to prepare ourselves for an incoming blackout. Further, there are high risks associated with solar flare radiation during space travel which can cause biochemical damage to humans. By predicting the time solar flares occur, it will be possible to prevent these potential lethal events.

Project steps

Step	Estimated completion time	Person(s) in charge (5 people)
1. Extracting and cleaning up the data	Week 5	2 - Kevin Mills, Haaris Rahman
2. Analysis the data	Week 6 and week 7	2 - Kevin Mills, Yongxing Chen
3. Train the model	Week 6 and week 7	3 - Yongxing Chen, Shaan Bhalaru, Shusen LIn
4. Data visualization,and animation	Week 7 and week 8	3 - Shusen Lin, Shaan Bhalaru, Haaris Rahman
5. Final test and catch up	Week 8 and week 9	All
6. Presentation preparation	Week 9 and week 10	All