Quant Challenge

Qualifier task

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| Team Members | |
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Structure

1. **Data**
2. **Minnesota**
3. **Meg hasonló finomságok**

Description of the Challenge

We are a team of Risk Analysts supporting an American credit institution that is active in the market of loans given to agricultural businesses. Our new project is to assess the climate risk of the bank’s investments in agriculture, specifically its loans to farmers in the state of Minnesota. Farmers are expected to repay their loans from the potential profit they achieve from their business. A significant drop in productivity endangers the existence of the farmers’ business, therefore, leads to a higher chance for loan defaults, and thus a larger expected loss for the bank. Specifically, the bank is worried about misestimating future crop yields on land in Minnesota due to the impact of climate change on agriculture. Therefore, the bank wants us to build a model that predicts the potential loss of productivity on plots of land that were purchased with loans from the bank.

We are given a database of historical crop yields, weather data, as well as future scenarios of climate change, to be used for forecasting. Our task is to infer from these data how different circumstances influenced the productivity of farmland in Minnesota in the past and build an engine that can predict future crop yields for a given future climate trajectory. A few example climate trajectories and random forecasts are enclosed in the database. The data sets contain data about 3 different crops: corn, oat and soybean. We start with corn, and in case we have further time, we can turn to oat and then to soybean for extra points.