Titel	Predict paperboard properties using machine learning
Allmänt om Holmen	**The future grows in the forest** Holmen is one of the biggest forest owners in Sweden and the growing forest is the basis of our business. We are part of the ecocycle from seedling to plank, where the raw material is refined into everything from wood for climate-smart buildings to renewable packaging, magazines and books. We also produce our own renewable energy from hydro and wind power. With a clear focus on sustainability in all aspects, Holmen contributes to a brighter future.
Beskrivning	This thesis is part of Holmens digitalization efforts. Holmen is through their business area Iggesund Paperboard a supplier of some of the top performing paperboards on the market. The paperboard is produced at the Iggesund mill in mid-sweden and at the Workington mill in the UK. When a supplier chooses Iggesund Paperboard it is partly due to the boards printing surface but also to its mechanical and structural properties, e.g. thickness and bending stiffness. These are properties one would like to predict based on the around 500 process signals that are used for control and surveillance of the process. Within this thesis, you as a student will first identify which of the signals are relevant for the prediction as the well as time lags in the signals. You will then create a prediction model using a suitable method. The goal is to create a robust prediction model that would be possible to implement in production in the future. The model shall be able to handle long time variations and property variations from the raw material. Hopefully this thesis will run parallel to a similar thesis in solid mechanics. We hope that you as student will be able to excel from knowledge sharing from one to another.
Mål	Thickness and bending stiffness predictor that can be implemented in production
Studieinriktning	Signal Processing/Automatic Control/ Process Modeling/Statistics/Machine Learning
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Placering	At one of Holmens Paperboard mills, most likely Iggesund.
Typ av exjobb	30 hp