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Master thesis topic: Automatic classification of LCA data

Currently, when we have a big set of data, like all electrical generators, all airplanes, all motorcycles, we split them into groups based on our engineering judgment. However, we can use machine learning algorithms to create groups based on their measured attributes, including Life Cycle Assessment (LCA) indicators. Preliminary work has already been done, e.g. http://pubs.acs.org/doi/abs/10.1021/es500757p, but much more is possible. Using data-based classification could reduce uncertainty and better help us understand when we do and do not need to split datasets into different groups, which should in turn help us understand the data better.

Key questions:

- How do the classifications from machine learning algorithms differ from each other and the expert judgments used today?
- How can we do automatic classification in the presence of uncertainty? * Can machine learning reduce the number of data groups, making data collection in the future easier?

Interested students are encouraged to contact Chris Mutel* for more information. Please include a short academic background on yourself including study programme, course list, and current grades.

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