Automatic life cycle assessment from simulations for circular economy

Master Thesis

About us

We are the Process Intelligence Research group and our vision is to transform Chemical Engineering with Artificial Intelligence (AI). As a young and dynamic group, we are actively looking for excellent students. We are a strong team working in a supportive atmosphere on our vision. In our team the values diversity, inclusion, and equality are utmost important to us.

The topic

Environmental concerns, like climate change, require chemical processes to become more sustainable. Modern process simulators already provide insights into the technological and economic performance of a process, but lack information about the environmental impact. Therefore, decision making tools are needed to steer process design into a sustainable future. In particular, Life Cycle Assessment (LCA) is a powerful tool to evaluate the environmental performance of products and processes. However, conducting a LCA is a time and labor-intensive procedure. Automating this procedure would greatly benefit the development of new sustainable processes. This project aims to automate the LCA of simulated processes.

Your profile

• Self-motivated
• Strong background in programming in Python
• Background in AspenPlus process simulations
• Ability to think creatively and solve problems
• Background in Chemical Engineering
• Background in LCA is a plus

Our offer

You will work on the fore-front of AI in Chemical Engineering on an relevant project. During your thesis, you will gain AI expertise and develop valuable skills for your future career. We offer you a strong support during your thesis and a nice team.

Interested?

Then contact us at l.schulzebalhorn@tudelft.nl and include your CV and a grade overview. Please also mention the intended starting date of the thesis and describe your general expectations.

TU Delft - Process Intelligence Research
Artur M. Schweidtmann

More information

ProcessIntelligence
RESEARCH

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