

Final Report

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In the context of developing an AI model that functions and responds like a human, Life Cycle Assessment (LCA) can play a crucial role in evaluating and mitigating the environmental impacts associated with the development, deployment, and maintenance of such technology.

1. Development Phase

LCA can assess the environmental impact of the hardware and software development process. This includes the extraction of raw materials, manufacturing processes, and energy consumption during the creation of the AI model.

2. Deployment and Usage Phase

LCA can help analyze the energy consumption and environmental impact of running the AI model in real-world scenarios. This involves understanding the energy requirements for processing and responding to queries, as well as the associated carbon footprint.

3. Maintenance and Updates

As the AI model evolves, LCA can be applied to assess the environmental impact of maintenance activities, including updates, patches, and hardware replacements. This is essential for ensuring ongoing sustainability.

By integrating LCA into your research, you can identify areas of improvement and implement strategies to minimize the environmental footprint of your AI model. This might involve optimizing algorithms for energy efficiency, utilizing renewable energy sources for data centers, or adopting sustainable hardware components.

In summary, LCA will contribute to your research by providing a holistic view of the environmental impact associated with the entire life cycle of your AI model. Utilizing this information, you can make informed decisions to reduce the environmental footprint, contributing to the broader goal of sustainable and eco-friendly artificial intelligence.