

## **Conference Session Report: Artificial Intelligence and Climate Change (Solutions)**

The presentation elucidated the dichotomy between promise and challenge in using AI for climate change adaptation and mitigation. AI's immense energy consumption and carbon dioxide emissions contribute to its negative effect on the climate. Nonetheless, AI models are being applied for climate simulations, prediction of extreme weather and natural disasters, and improve the efficiency of traffic systems. An online survey conducted among 62 students from three countries reveals that students' awareness of the connection between AI and climate change, especially the risks of AI, is rather low. Therefore, more education is necessary, and ethical issues must be considered.

In the discussion, the group was asked for an estimate whether AI will have more positive or negative effects. They responded that AI will be indispensable for simulations of climate scenarios and predictions of natural catastrophes. However, the carbon footprint has to be reduced.

An audience member asked which AI intervention was the most promising in addressing environmental challenges. There is an [AI model that predicts wildfires](#), and the project [Wildbook](#) uses computer vision to collect data about animal populations to support conservation efforts. The next person asked about the danger of false alerts in early warning systems. The group answered that the likelihood and impact of a false positive alert compared to a false negative must be considered, as in the [risk matrix](#). Moreover, AI should be used as a tool for experts, not as a standalone.

Another question addressed AI's integration into the education system. AI should be part of interdisciplinary learning, potentially including industry cooperations. AI can also provide individual feedback to students, as e.g. the [Plan Ceibal project](#) which provides a math learning platform.

The last audience comment reemphasized AI's influence in the exacerbation of climate change and a resulting increase of man-made environmental disasters.

In summary, although the group and the audience had not previously been aware of the connection between AI and climate change, it proved to be a highly active research field and a double-edged sword in a world that is already experiencing the consequences of climate change.