Green AI

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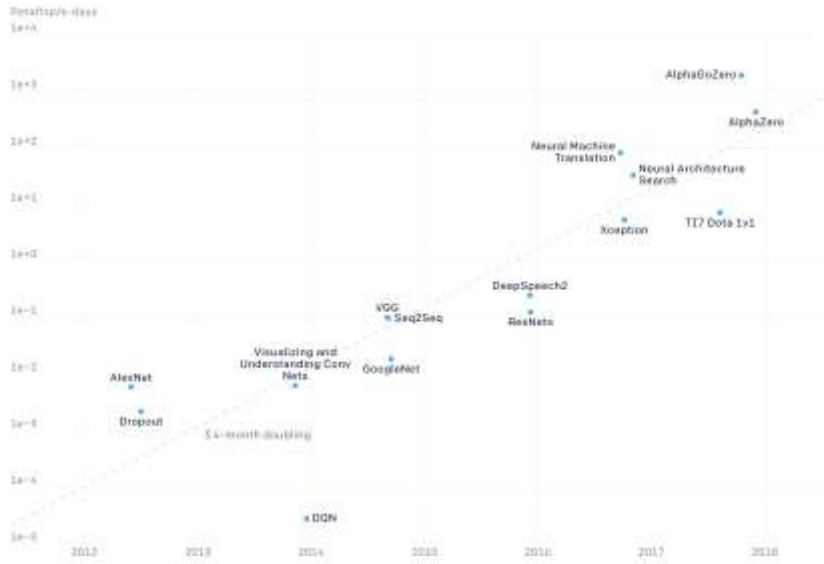
Project Overview

As industries embrace artificial intelligence, the demand for more sophisticated and powerful AI models is increasing. A large amount of energy and computational cost is required to train AI models, raising concerns about its carbon footprint. According to a recent finding, the amount of computing power required for advanced AI training has increased 300,000-fold since 2012, and the cost of training one machine translation model is estimated to emit 626,000 tones of CO2.



So What is Green AI?

Green AI refers to the development and use of **sustainable and energy-efficient** AI technologies with the aim of **reducing energy consumption and carbon emissions**, and helping to mitigate the impacts of climate change.

Solution and Approach

In the context of green AI projects, balancing accuracy and energy efficiency becomes critical, especially when operating under constrained computing resources. After research, our team found that model compression methods such as **model pruning, knowledge distillation** or lightweight neural networks can be used to achieve the goal.

Current achievement and Next Step

Currently, our group has completed the following tasks:

1. Conducted research and collection of Green AI related literature.

2. To verify the effectiveness of the model compression methods, we conducted two simple experiments using model pruning and knowledge distillation methods.

Our Next Step:

1. Explore other model compression methods and use these methods to design more efficient network models.

2. Establish suitable evaluation indicators for the model.

THE END

THANKS