

Green AI

Case Study | Decarbonizing an AI System

BI Business Insider

ChatGPT uses 17,000 times more electricity than a US household: report

ChatGPT uses more than half a million kilowatt-hours of electricity daily, The New Yorker reported. In comparison, the average US household...

1 month ago

en Euronews.com

AI and the environment: Chatbot ChatGPT consumes more energy than a traditional Internet search

Three clicks to write a play or create a website: artificial intelligence systems (AI) may seem like magic, but their functions aren't...

1 Nov 2023

DC Data Center Dynamics

Microsoft's water consumption jumps 34 percent amid AI boom

Microsoft's water consumption jumped 34 percent in mid-2022 from 6.4 million gallons in 2021. Microsoft said that...

12 Sept 2023

F Forbes

Artificial Intelligence Revolution: The Power of American Natural Gas

At the heart of the AI revolution, computing power is crucial, and I firmly believe that natural gas presents a cost-effective solution...

12 hours ago

B Bloomberg

How Much Energy Do AI and ChatGPT Use? No One Knows For Sure

Artificial intelligence has become the tech industry's shiny new toy, with expectations it'll revolutionize trillion-dollar industries from...

9 Mar 2023

G The Guardian

Why AI is a disaster for the climate

Amid all the hysteria about ChatGPT and co, one thing is being missed: how energy-intensive the technology is. Sat 23 Dec 2023 11.00 EST.

23 Dec 2023



adesso

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Case

Time Series | MAPE = 22% | 37k€ | 49t CO₂ | Constraints

Method

Re-Training + Inference | DCIM + CO₂/kWH | iPDU

Framework

Data | Experiments | Training | Inference

Data

Sufficiency | Dimension Reduction | Life Cycle Management

Experiments

Tracking | Hyperparameters | Model Selection

Training

Early Stopping | Frequency | Reuse | Load Shifting

Inference

Centralized | Hardware

Results

-34% Cost | -48% CO₂ | -30% Data | MAPE = 7%

Cons

Granularity | CO₂ Focus | Traditional | Niche | Hardware



Pros

Results | Business Case | Use Case

Learnings

CO₂ > kWh | Hardware Data | Constraints

Outlook

Caching | Single Use Data | Intensity | Adoption | Complexity



Thanks

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