

Exploring the Trade-offs between Energy and Performance of Federated Learning Algorithms

Presenter

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Who, What, Why, How?

Who?



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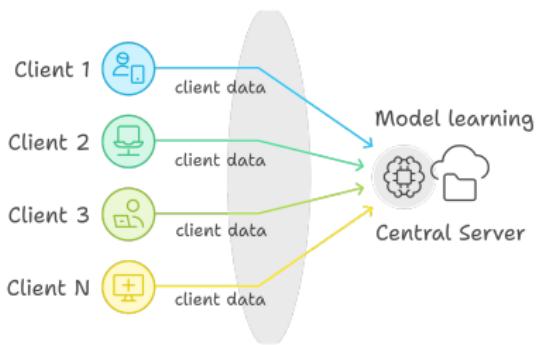
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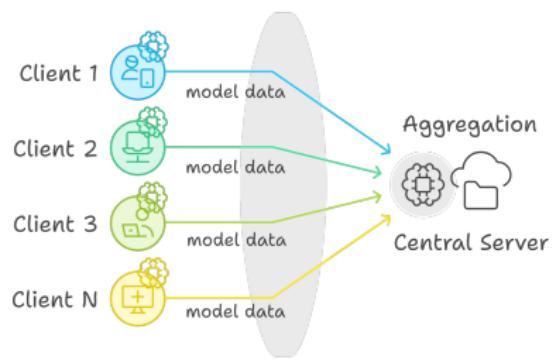
What is it?

Trade-offs between Energy and Performance of Federated Learning?

Data privacy concerns in Centralized Machine Learning



Solution from Federated Learning



Why? - RedAI warning

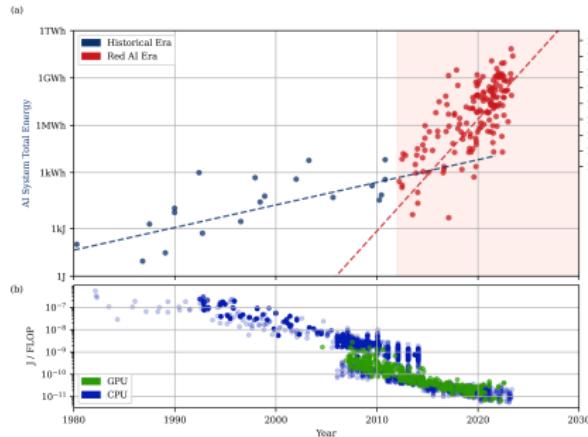
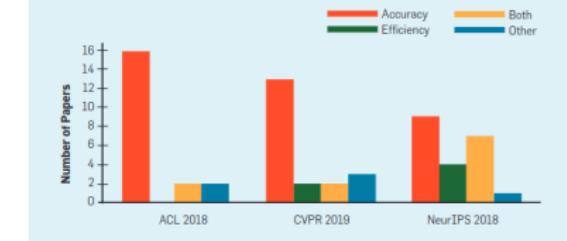


Figure 2. AI papers tend to target accuracy rather than efficiency. The figure shows the proportion of papers that target accuracy, efficiency, both or other from a random sample of 60 papers from top AI conferences.



¹"**Red AI** refers to AI research that seeks to improve accuracy (or related measures) through the use of **massive computational power** while disregarding the cost — essentially “buying” stronger results."

¹Schwartz, Roy, et al. "Green ai." Communications of the ACM 63.12 (2020): 54-63.

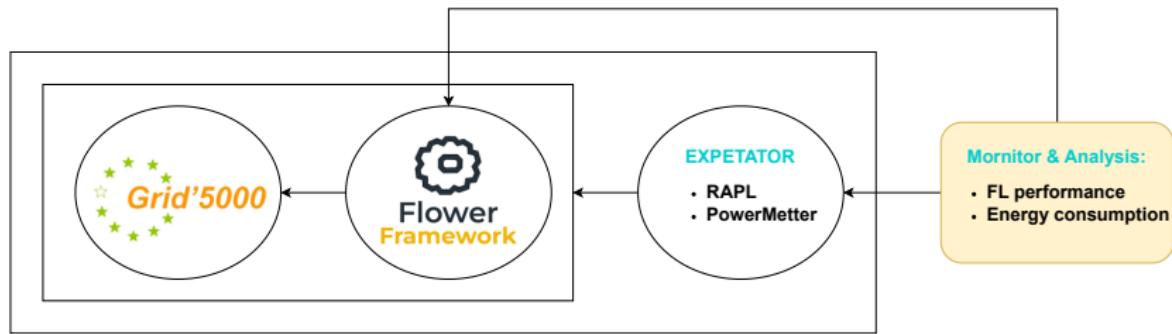
Why? - Project Funding

- ANR DELIGHT (aDvancing fEderated LearnIng while reducinG tHe carbon fooTprint) project.

Why? - Cake!



How build the Framework?



Merci d'avoir regardé!