# Article information:

Campo: Cost-Aware Performance Optimization for Mixed-Precision Neural Network Training | USENIX  
<https://www.usenix.org/conference/atc22/presentation/he>

# Article summary:

1. Campo is a tool that improves the performance of mixed-precision neural network (NN) training by taking into account the cost of casting tensors from float32 (FP32) to float16 (FP16).

2. Campo is based on performance modeling and a cost-aware graph rewriting strategy, and can improve training throughput by up to 24.5% on RTX 2080 Ti GPU and 23.4% on V100 GPU without sacrificing accuracy.

3. Campo also increases energy efficiency by up to 24.2%, compared to TensorFlow using TF\_AMP.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article provides an overview of Campo, a tool for cost-aware performance optimization for mixed-precision neural network training. The authors provide evidence that Campo can improve training throughput and energy efficiency compared to existing methods, but do not explore any potential risks or drawbacks associated with its use. Additionally, the article does not present any counterarguments or alternative solutions, nor does it discuss any potential biases or sources of partiality in the research presented. Furthermore, there is no discussion of possible one-sided reporting or unsupported claims made in the article, as well as missing points of consideration or evidence for the claims made. As such, while the article provides an interesting overview of Campo and its potential benefits, it fails to provide a comprehensive assessment of its trustworthiness and reliability due to its lack of critical analysis and exploration of potential risks associated with its use.

# Topics for further research:

* Risks associated with Campo
* Alternatives to Campo
* Biases in neural network training
* Unsupported claims in Campo research
* Points of consideration for Campo
* Evidence for Campo claims

# Report location:

<https://www.fullpicture.app/item/ecd416ff0edeef59656b7f3019214c04>