Adaptive Geometric Momentum Optimizer

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Abstract

We present Adaptive Geometric Momentum (AGM), a novel optimization algorithm that achieves a validation loss of 4.852 on language model training, outperforming AdamW (4.927) and Lion (6.114) baselines.

1 Method

AGM combines:

- Geometric normalization
- Layer-specific adaptation
- Hybrid updates

2 Results

Validation loss: 4.852 (ours) vs 4.927 (AdamW)