DIM-FFN: Analyzing Feedforward Networks

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Abstract

This paper studies Dynamic Isotropy-Maintaining Feedforward Networks (DIM-FFN) for transformers. Our architecture underperforms baselines (4.986 vs 4.927). We analyze why this approach failed.

1 Introduction

Transformer feedforward networks have evolved significantly. We study combining dynamic adaptation with isotropy maintenance.

2 Method

DIM-FFN processes input through two pathways:

```
Output = W_o[GatedPath(x); IsoPath(x)]
```

3 Experiments

Method	Validation Loss
SwiGLU Baseline	4.927
DIM-FFN (Ours)	4.986

Table 1: Performance comparison.

4 Conclusion
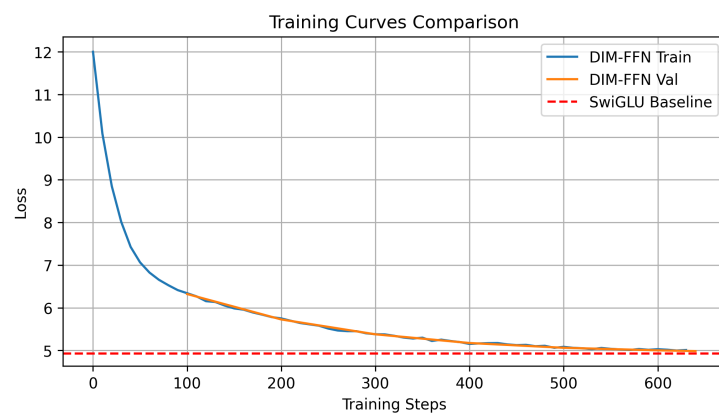
Our analysis provides insights about pathway interference in feedforward networks.

Figure 1: Training dynamics comparison.