Training Instability

Oscillating Loss Patterns

Loss

Training Steps →

— Discriminator Loss   — Generator Loss
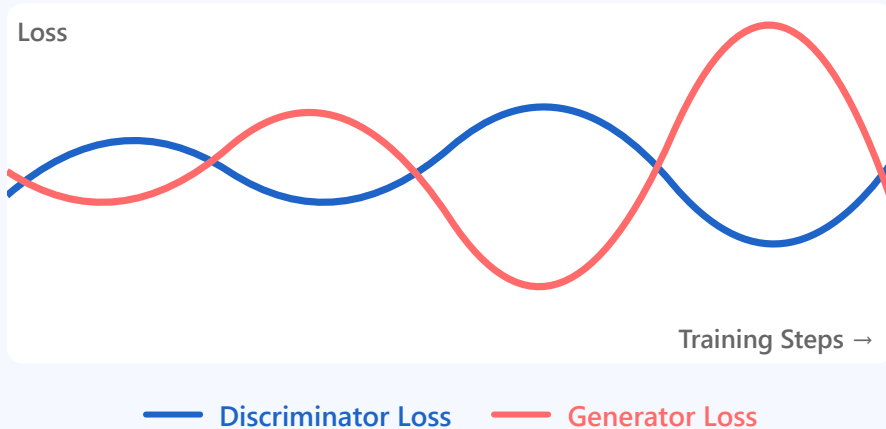
Key Issues

| ⚠ No convergence | ⚠ G/D imbalance |
| ⚠ No stopping criterion | ⚠ Loss ≠ Quality |

Characteristics

- Oscillating losses
- Hyperparameter sensitive
- Loss-quality disconnect

Core Problems

✗ Generator/Discriminator imbalance

✗ No clear stopping criterion

✗ Loss doesn't correlate with quality

✓ Stabilization Techniques

| Spectral Normalization | Self-Attention |
| Progressive Growing | LR Scheduling |