Step Decay Learning Rate Scheduling

Reducing Learning Rate at Fixed Intervals

📉 Core Concept

Reduce learning rate by a fixed factor at specific epoch intervals

Formula

$$LR = initial\_lr \times 0.1^{(epoch \,//\, step\_size)}$$

Reduce by 0.1× every step_size epochs

💡 Common Schedule

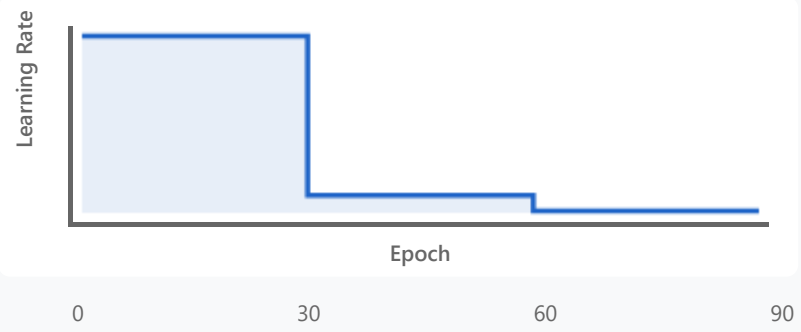
Reduce by 0.1× every 30 epochs

- **Epoch 0-29:** LR = 1.0 × initial_lr
- **Epoch 30-59:** LR = 0.1 × initial_lr
- **Epoch 60-89:** LR = 0.01 × initial_lr

⚖️ Characteristics

- ✓ Simple to implement and understand
- ✓ Effective when training duration is known
- ✓ Can align drops with learning regime changes
- ⚠ May cause sudden jumps in loss when LR drops

Learning Rate Progression



🎯 Widely Used In

Computer Vision (ResNet Training Schedule)