

Part 4/6: Key Challenges

Common Failure Patterns

VISUAL

Checkerboard Artifacts



Grid-like patterns appear in generated images due to deconvolution operations

Image Quality

TEXTURE

Inconsistent Transitions



Mix of blurry and sharp regions without logical consistency

Coherence

COLOR

Unrealistic Colors



Color distributions don't match real data, often oversaturated or unnatural

Distribution

ANATOMY

Anatomical Errors



Incorrect features in faces, hands, or body proportions

Realism

CRITICAL

Training Collapse After Initial Success



Model performance degrades suddenly after showing good results, often unrecoverable without restart

Training Dynamics



Visual Artifacts

- Checkerboard patterns
- Color inconsistencies



Video Issues

Temporal inconsistency between frames in video generation tasks



Resolution Limits

Quality degrades without progressive growing techniques

- Blurry/sharp mixing