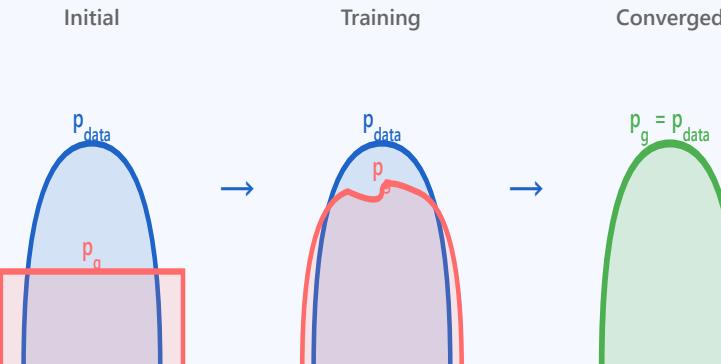


## Probability Distribution Perspective

### Distribution Convergence Process



### Real Data Distribution

$p_{\text{data}}(x)$  - True distribution of training data

### Generator Distribution

$p_g(x)$  - Distribution learned by generator

### Objective

Minimize distance between distributions

$$D(p_{\text{data}} \parallel p_g) \rightarrow 0$$

### Sampling Process

- z Sample from latent space:  $z \sim p_z(z)$
- G Neural network transformation:  $G(z)$
- x Generate sample:  $x \sim p_g(x)$

### Key Advantages

- ✓ Implicit density modeling
- ✓ No explicit likelihood computation
- ✓ Direct sampling capability