Few-Shot Fine-Tuning

Learn from 5-100 Examples
Critical for rare diseases and limited data scenarios

5-10	**10-100**	**70-85%**
Few-Shot	Low-Resource	Accuracy

🏥 Rare Disease Applications

- Orphan diseases with < 100 documented cases
- Novel disease presentations (e.g., COVID-19 variants)
- Specialized diagnostic criteria
- Unique patient populations

🎯 Few-Shot Strategies

- **Meta-Learning:** Learn to learn from few examples
- **Prompt-Based:** Design task-specific prompts
- **Data Augmentation:** Synthetic example generation
- **Transfer Learning:** From similar rare diseases

⚙️ Implementation Tips

- Use higher learning rates (5e-3 to 1e-2)
- Train for more epochs (20-50 vs 3-5)
- Apply strong regularization
- Validate with leave-one-out cross-validation