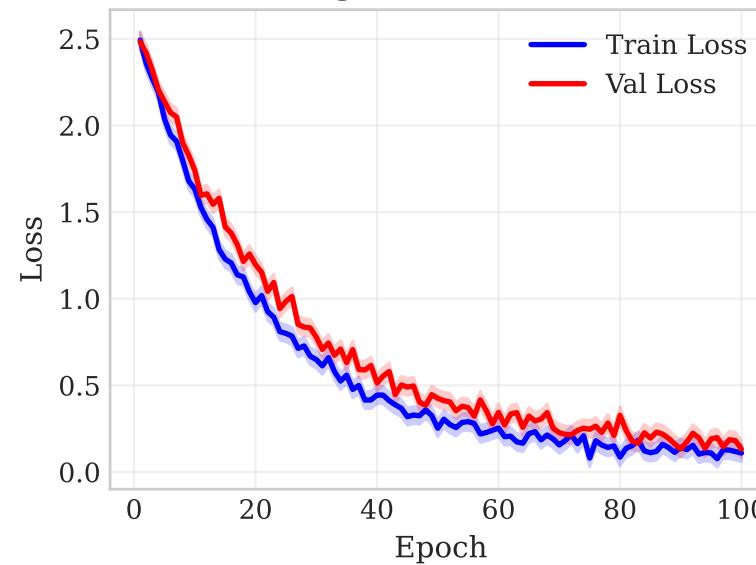
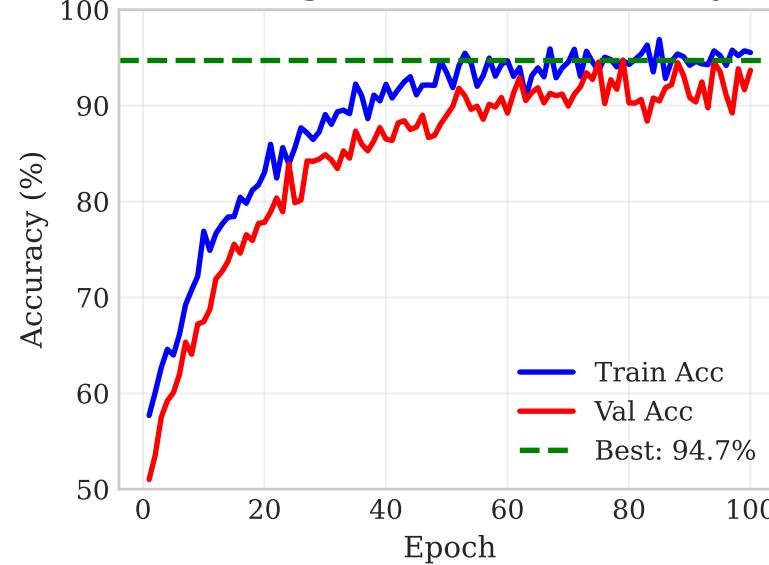


# Model Training Process Visualization

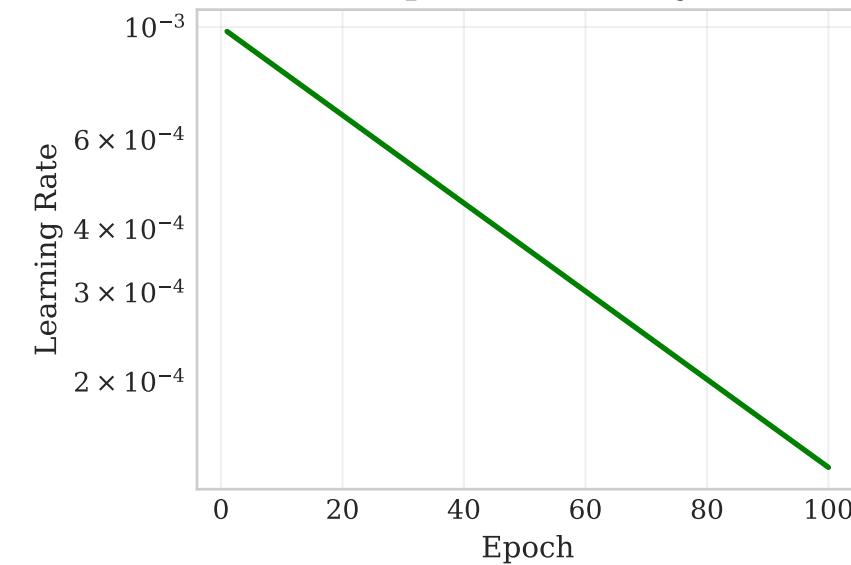
## Training & Validation Loss



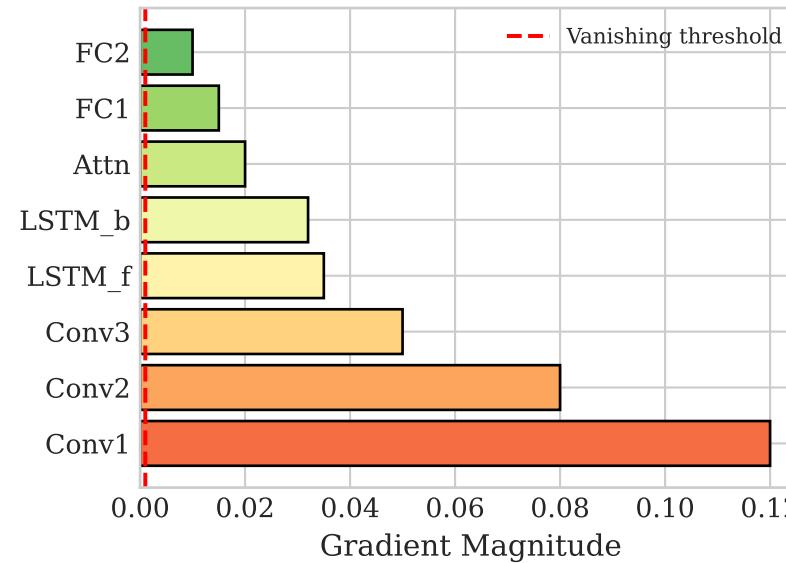
## Training & Validation Accuracy



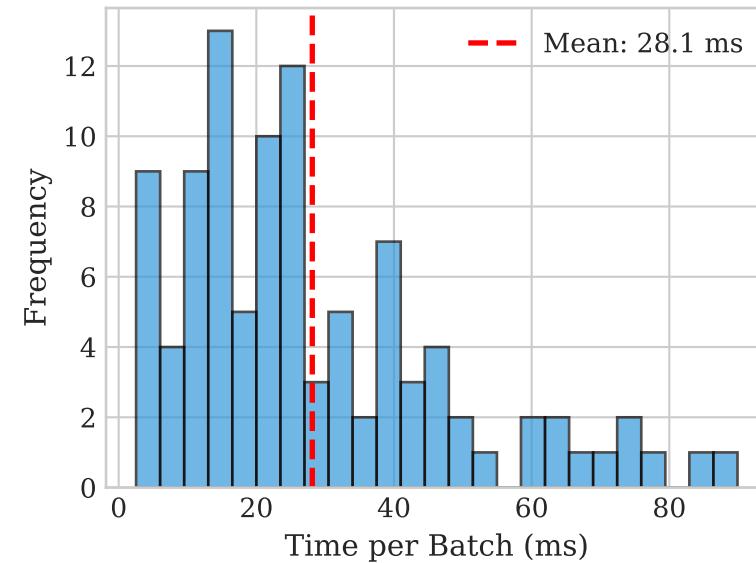
## Learning Rate Schedule (Exponential Decay)



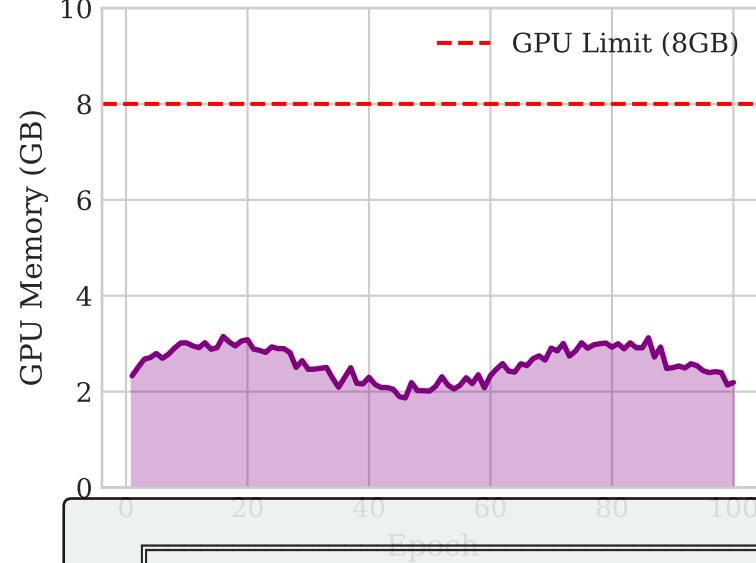
## Gradient Flow Analysis



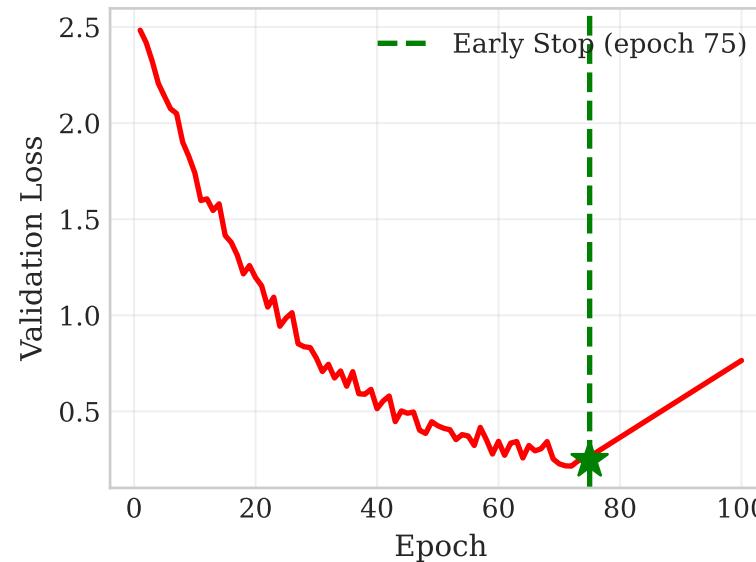
## Batch Processing Time



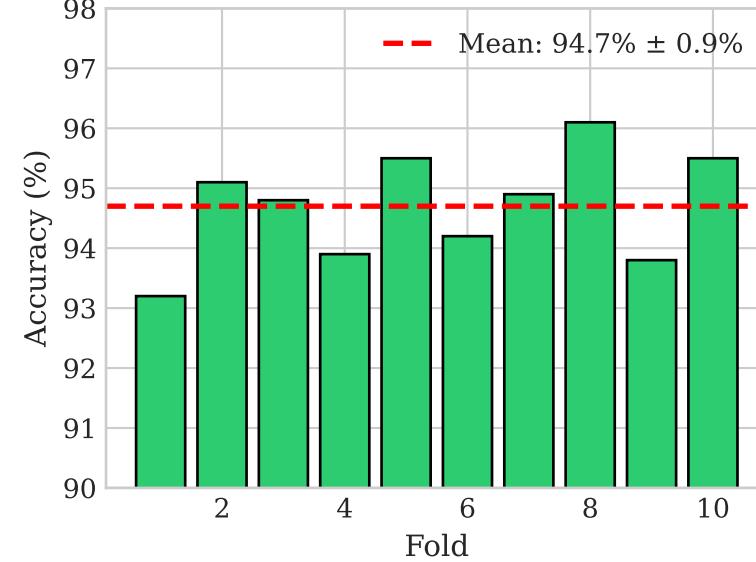
## GPU Memory Usage



## Early Stopping (Patience: 10 epochs)



## 10-Fold Cross-Validation



## TRAINING SUMMARY

### Training Configuration

Total Training Time: 2h 15m  
Best Epoch: 75  
Training Time: 2h 15m

Final Train Loss: 0.12  
Final Val Loss: 0.18  
Final Train Acc: 96.2%  
Final Val Acc: 94.7%

Best Val Acc: 94.7%  
Overfitting Gap: 1.5%

Optimizer: AdamW  
Initial LR: 1e-3  
Batch Size: 64  
Early Stopping: Yes (p=10)