

Supplementary Material

QPolypNet: A Quantum-Inspired Deep Learning Model for Polyp Segmentation

1. Training and Validation Performance

To evaluate convergence behavior and training stability of QPolypNet, we also performed an experiment using a combined dataset comprising samples from all four benchmarks. Figures 1 and 2 illustrate the training loss and validation Dice coefficient, respectively, aggregated over this mixed dataset. Although individual datasets were used for final model evaluation, this combined run provides a global view of the model's learning dynamics. The training loss decreases rapidly and stabilizes after approximately 60 epochs, while the validation Dice steadily improves, indicating effective and stable optimization across diverse polyp characteristics. This consolidated view demonstrates QPolypNet's ability to generalize across heterogeneous data sources and supports its robustness in multi-institutional clinical settings.

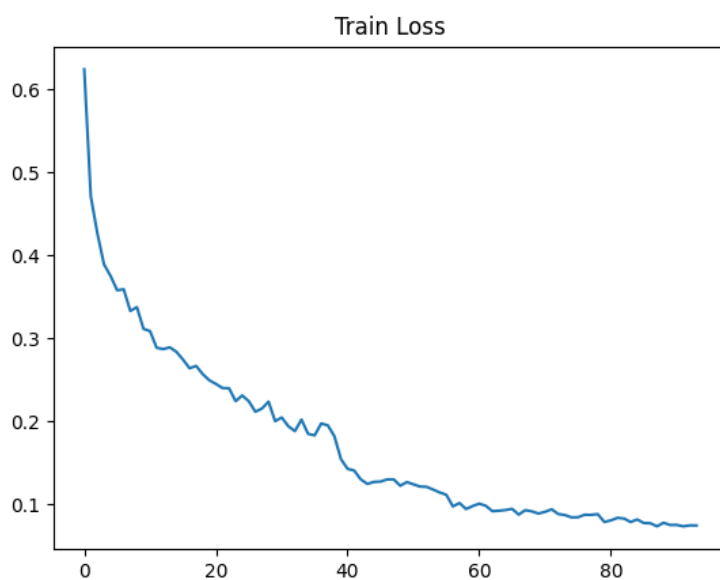


Figure 1. Training loss curve on combined dataset showing convergence over epochs

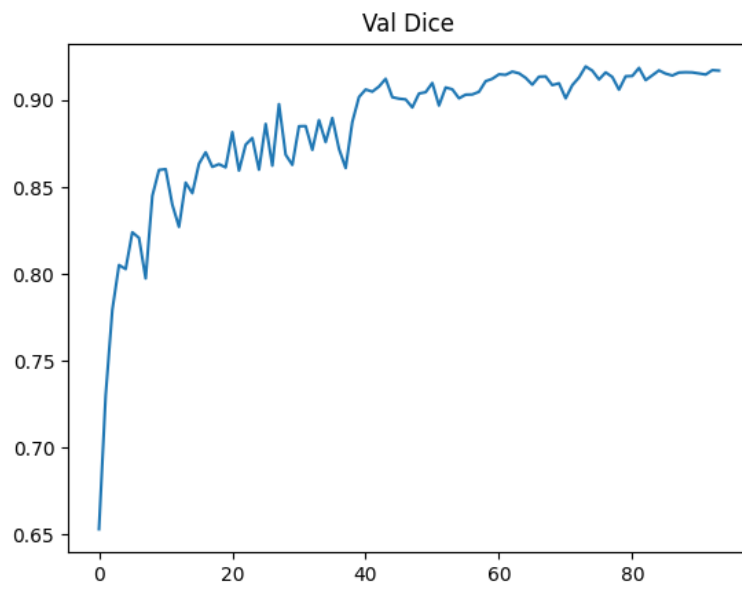


Figure 2. Validation Dice coefficient on combined dataset improving over training epochs.