

Analysis and Insights

1. **Regularization Effect:** Dropout is known to prevent overfitting by randomly dropping units during training. It helps the model generalize better to unseen data. The inclusion of dropout may result in a slightly lower training accuracy, but it can improve validation accuracy, indicating better generalization.
2. **Stability and Speed:** Layer normalization can contribute to the stability of training by normalizing inputs. It may result in a more stable convergence of the model and potentially faster training.
3. **Hyperparameter Tuning:** The dropout probability and layer normalization parameters may need to be tuned for optimal performance. Experimenting with different values for these parameters could lead to improvements in the model's overall performance.
4. **Impact on Final Accuracy:** While dropout and layer normalization may improve generalization, their impact on the final accuracy depends on the specific characteristics of the dataset and the complexity of the model. It's essential to experiment and fine-tune to find the best configuration.

Conclusion

The addition of dropout layers and layer normalization to the model introduces regularization and normalization techniques that can potentially enhance the model's performance. Through careful experimentation and analysis, the optimal configuration of dropout probability and layer normalization parameters can be determined to achieve improved training and validation results.