

# 1 Future Research Directions

Online learning with concept drift detection (ADWIN) enabling retraining when characteristics shift (elections, recessions, policy pivots). (5) Explainable AI: Attention visualization and SHAP values quantifying component contributions for transparency and regulatory compliance. Additional directions include transformer architectures (Temporal Fusion Transformers), cross-asset correlation (equities/bonds/currencies), longitudinal studies across market cycles, and A/B testing measuring actual trading profitability beyond backtested metrics.

## 2 Acknowledgment

This research and system development were conducted jointly by Hylmi Rafif Rabbani and Ali Gunawan at the Department of Information Systems, Bina Nusantara University. Both authors contributed equally to the conceptualization, implementation, and evaluation of the multi-modal stock prediction platform. H.R. Rabbani led the technical architecture design and LSTM implementation, while A. Gunawan directed the integration of sentiment analysis and production deployment. We thank the anonymous reviewers for their constructive feedback that improved this manuscript.

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