

# 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

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