Reviewer 3 Comments

Manuscript: NarrativeBreak: Integrating Structural Break Detection with Multi-Source NLP Signals for Dynamic Portfolio Optimization **Recommendation:** Minor Revision **Confidence:** Medium

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Summary

This paper proposes a framework for integrating NLP sentiment signals with portfolio optimization through regime detection. As someone who works in quantitative asset management, I find the practical angle interesting. However, several implementation details need clarification for this to be actionable.

Major Comments

P1. Computational Requirements

The paper doesn't discuss computational requirements. For a practitioner considering implementation:

1. How long does FinBERT inference take per article? Per day (thousands of articles)?
2. What GPU/CPU resources are assumed?
3. What is the end-to-end latency from news event to portfolio signal?

A table showing processing times for each NLP method would be very helpful.

P2. Data Infrastructure

Real-world implementation requires significant data infrastructure:

1. What news data providers are compatible? (RavenPack, Bloomberg, free alternatives?)
2. What are typical data costs?
3. How is entity recognition (news article to stock ticker) handled?

P3. Operational Risk

Several operational considerations are not discussed:

1. What happens during model drift? How often should the HMM be retrained?
2. How does the system behave during flash crashes or other extreme events?
3. What are appropriate position limits and risk controls?

P4. Integration with Existing Systems

For practitioners with existing portfolio systems:

1. Can NarrativeBreak provide expected returns as input to existing optimizers?
2. How does it integrate with risk management systems?
3. What frequency of updates is supported (daily, intraday)?

Minor Comments

p1. Ensemble Weights

The static ensemble weights (50/30/20) seem arbitrary. Could these be learned dynamically?

p2. Position Sizing

The relationship between sentiment confidence and position sizing is unclear. Does higher confidence lead to larger positions?

p3. Alternative Applications

Consider discussing applications beyond portfolio optimization: event-driven strategies, sector rotation, risk management.

p4. Comparison to Industry Practice

How does this compare to what quant funds actually do with NLP data?

Assessment

The paper has practical potential but needs more discussion of implementation considerations. A practitioner section or appendix would significantly increase the paper's value. Overall, I lean toward minor revision as the core methodology is sound.

Note: This is a simulated review for demonstration purposes.