

# Retrieving Implicit Information for Stock Movement Prediction

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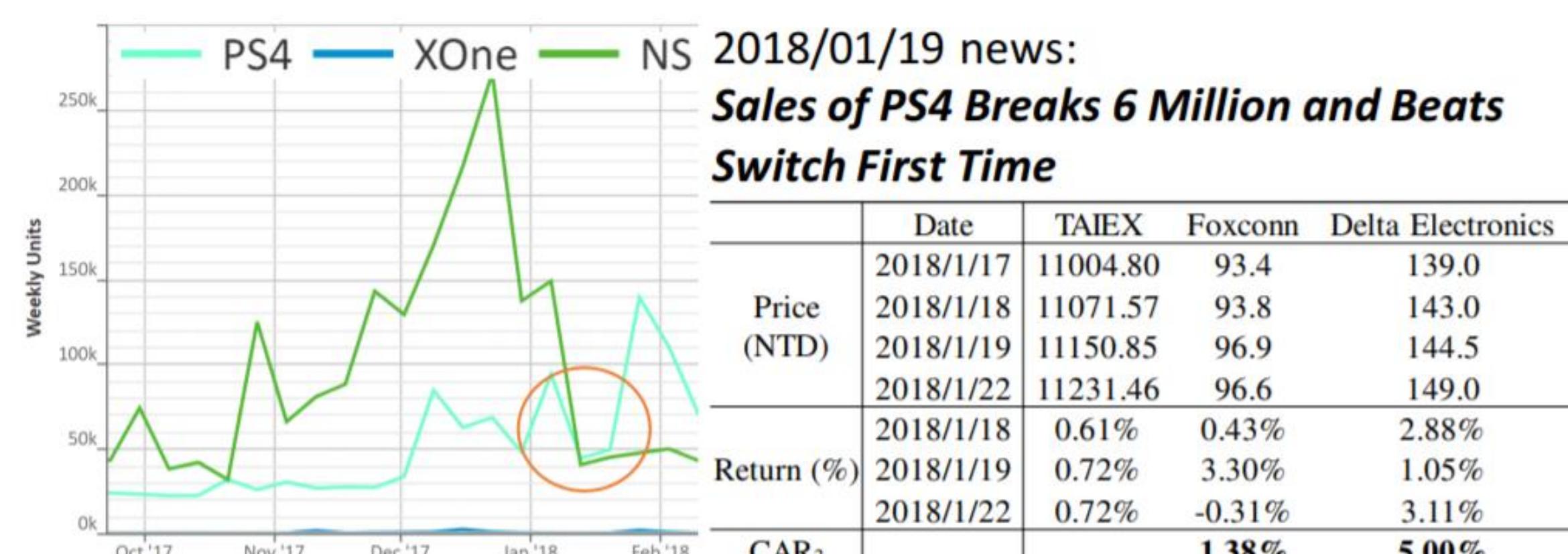
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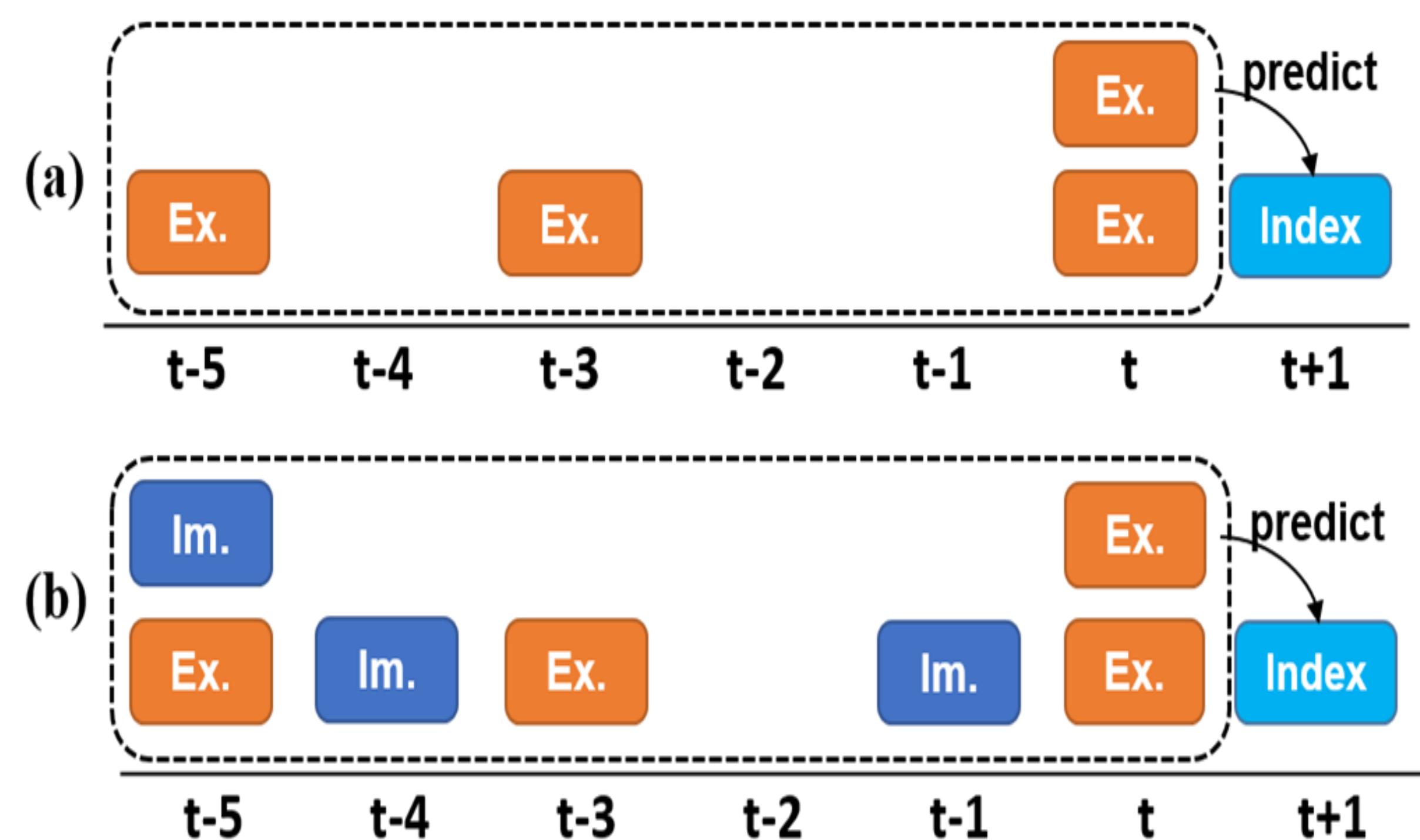
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## Main Concept – Implicit Information

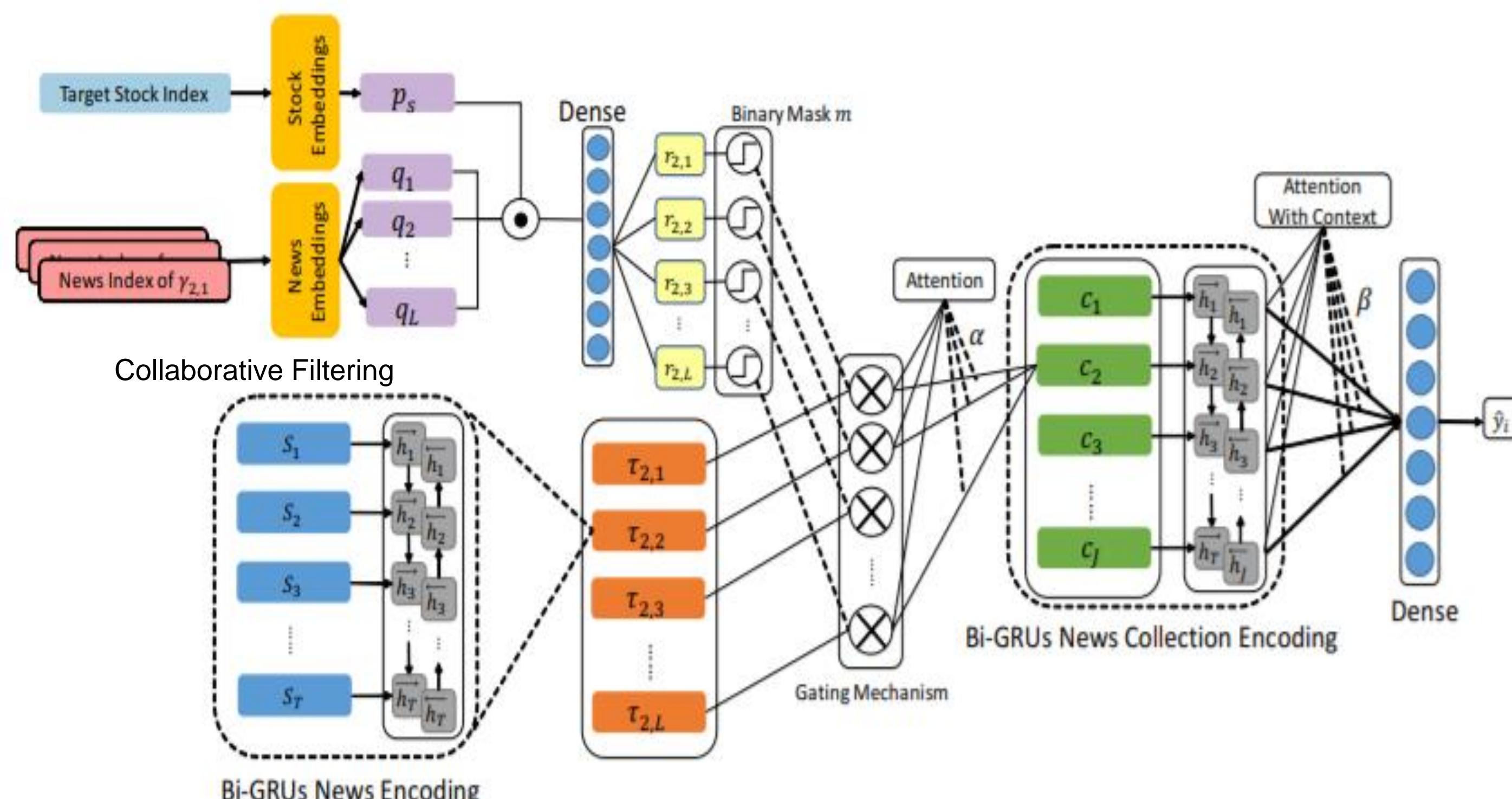
- Previous Work: Predict the Stock Movement of Sony (**Mentioned** in the News Article)
- **This Paper:** Predict the Stock Movement of Supply Chain Vendors (**Not Mentioned** in the News Article)



## Benefit – The Sparse Temporal News Sequence



## News Distilling Network



## Dataset

### • Ground Truth

$$CAR_{s,n} = \sum_{d=1}^n (R_{s,d} - \hat{R}_d)$$

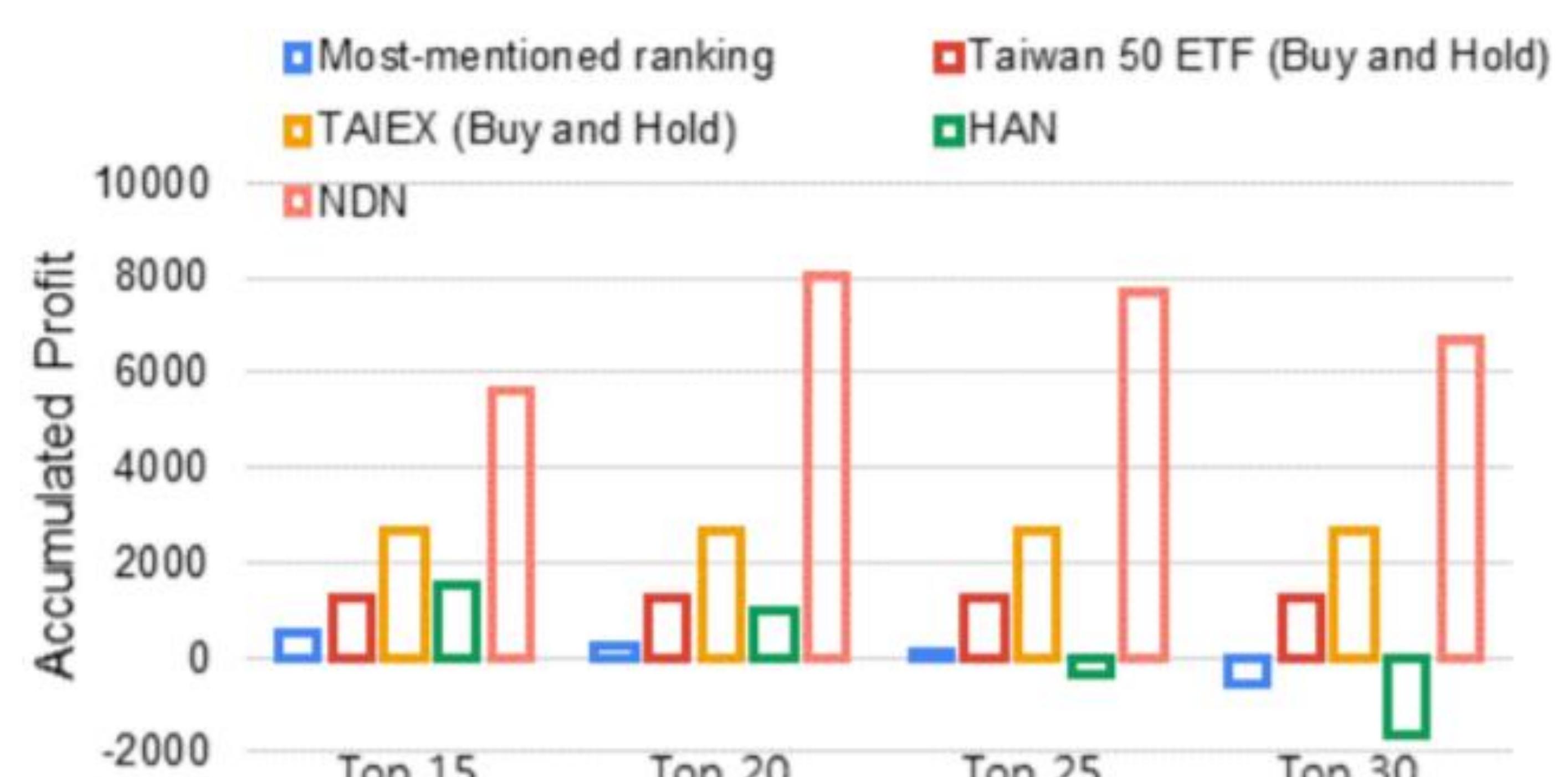
### • Dataset

	Train	Test
Period	2013/06/22-2018/01/01	2018/01/01-2018/06/20
RISE	29,067	2,906
FALL	26,778	2,678
Total	55,845	5,584

## Stock Movement Prediction

Model	Acc. (%)	MCC
Random Guess	50.77	0.0147
BoW + Random Forest	50.97	0.0159
FastText + Random Forest	52.83	0.0485
HAN	54.37	0.0788
HAN <sub>s1</sub>	53.85	0.0736
NDN <sub>s1</sub> (Proposed)	56.75*	0.1302*
HAN <sub>s2</sub>	56.77*	0.1300*
NDN <sub>s2</sub> (Proposed)	<b>57.89*</b>	<b>0.1536*</b>

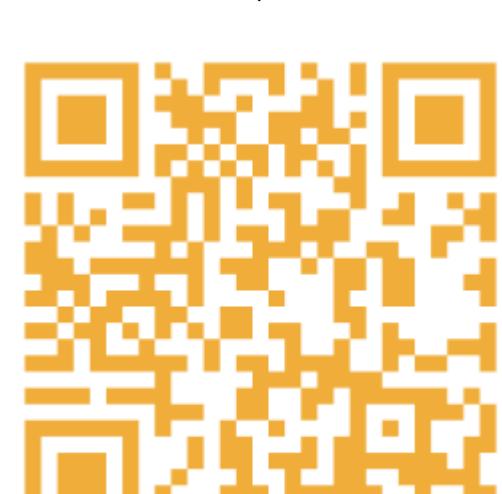
## Backtesting



## Related Works

- **From Opinion Mining to Financial Argument Mining.** Springer Book
- Dynamic Graph Transformer for Implicit Tag Recognition. EACL'21
- FinSense: An Assistant System for Financial Journalists and Investors. WSDM'21

## Open Access



- FinNum-3 Shared Task @ NTCIR-2022 – Investor's and Manager's Fine-grained Claim Detection
- The Third Workshop of Financial Technology and Natural Language Processing @ IJCAI-2021
- The 2nd Workshop on Financial Technology on the Web (FinWeb-2022) (May be in conjunction with WWW'22)
- EMNLP-2021 Tutorial: Financial Opinion Mining

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