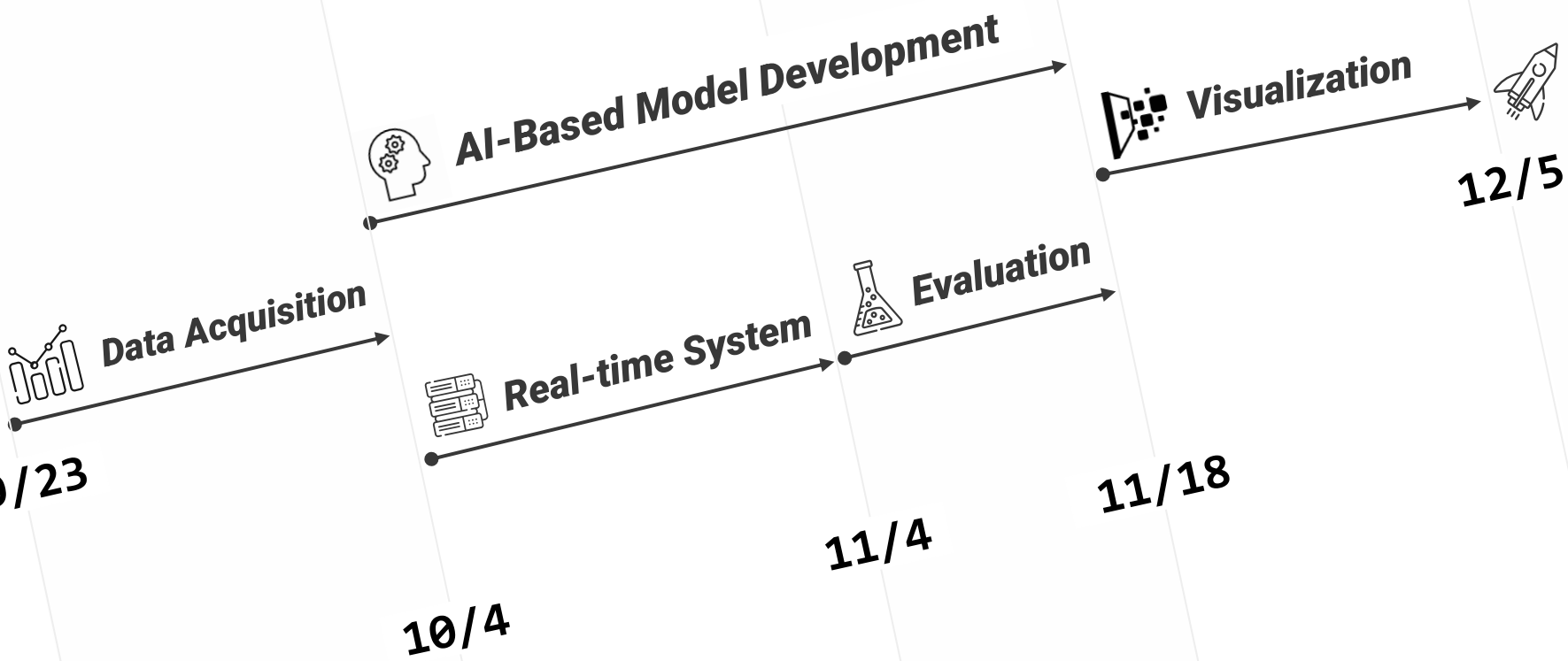
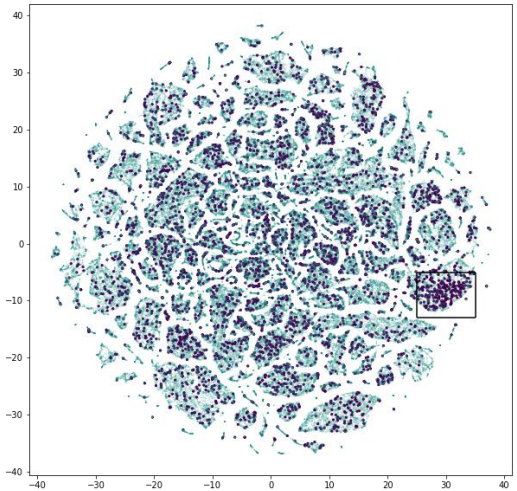
Timeline


Data Acquisition
AI-Based Model Development
Real-time System
Evaluation
Visualization
9/23
10/4
11/4
11/18
12/5

Overall Plan

매매상황 세분화

- Heuristic approach
- Auto-Encoder, t-SNE



AI 모델 개발

- 1D-CNN
- Transformer

실시간 데이터 처리

- 키움 API

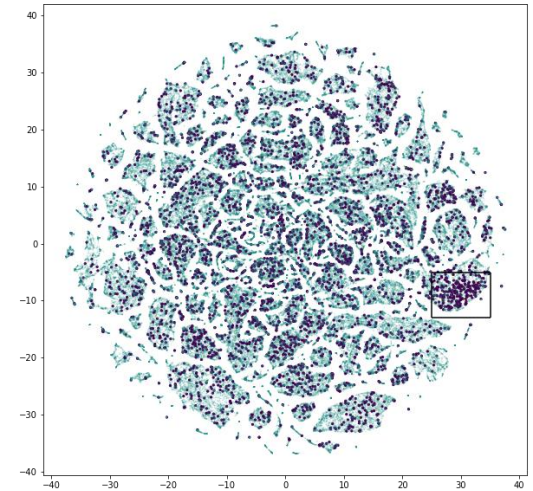
검증 및 설명성 부여

- 모의투자
- Grad-CAM
- Attention

Overall Plan

매매상황 세분화

- Heuristic approach
- Auto-Encoder, t-SNE



AI 모델 개발

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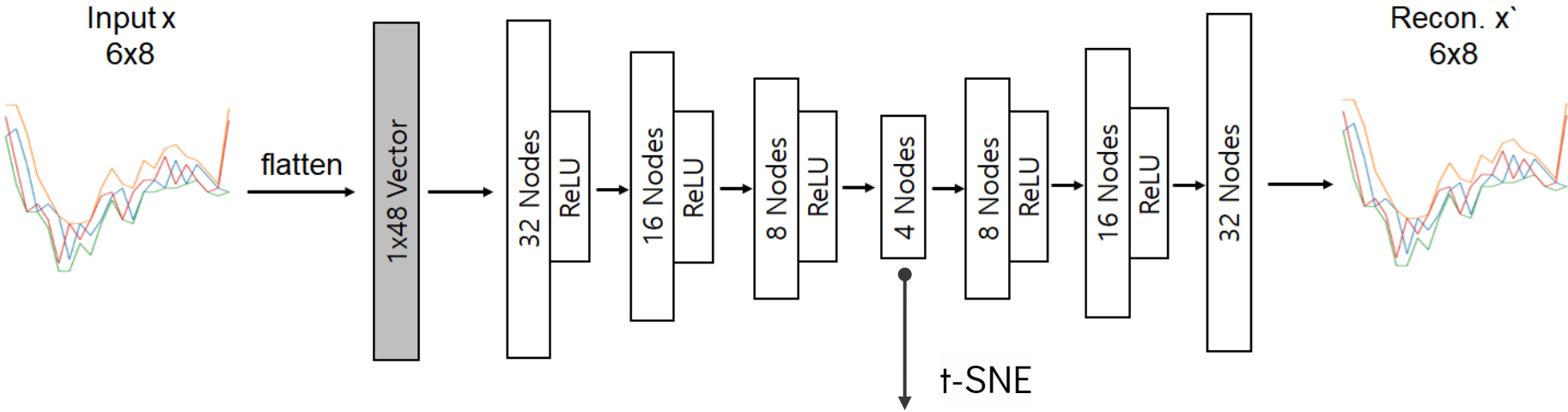
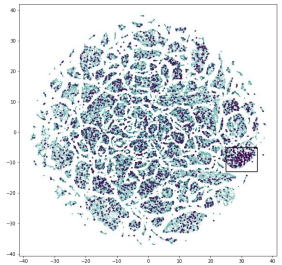
AI Model Development

- Fully Connected Auto-encoder



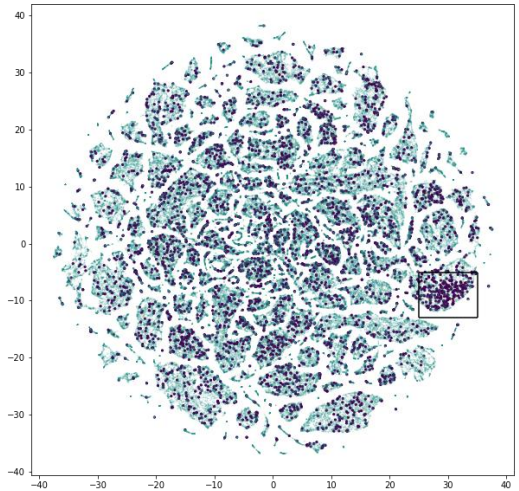
- Train data size 2,000,000 X 6 X 8.
- We use only 5% stock data yet.



Overall Plan

매매상황 세분화

- Heuristic approach
- Auto-Encoder, t-SNE



AI 모델 개발

- 1D-CNN
- Transformer

실시간 데이터 처리

- 키움 API

검증 및 설명성 부여

- 모의투자
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- Attention

AI Model Development

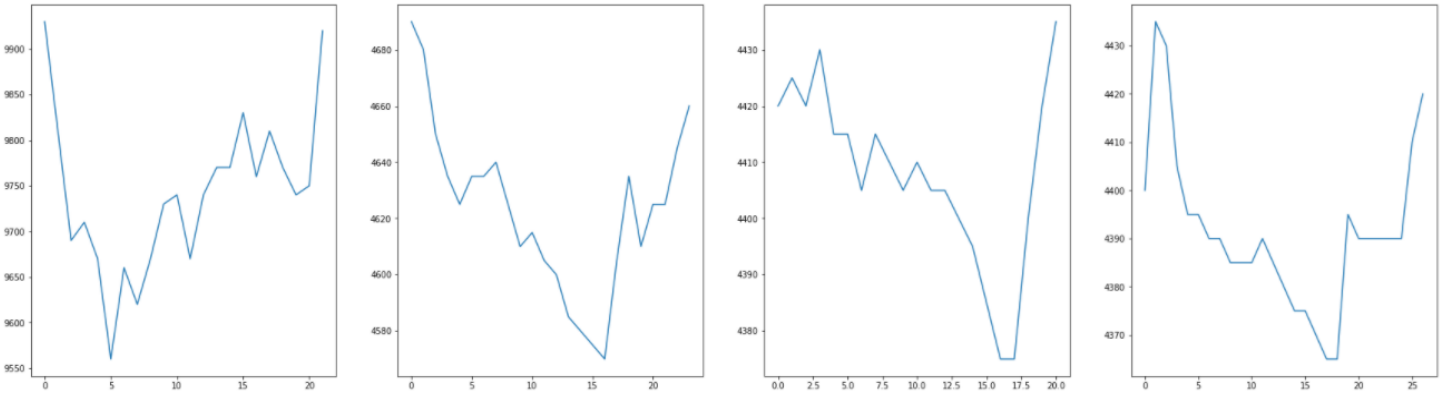
- Heuristic approach

1) 9:00~9:30
2) 시초가 대비 1% ~ 3% 하락
3) 하락이후 다시 시초가까지 상승

Input shape

= [batch,channel,length]

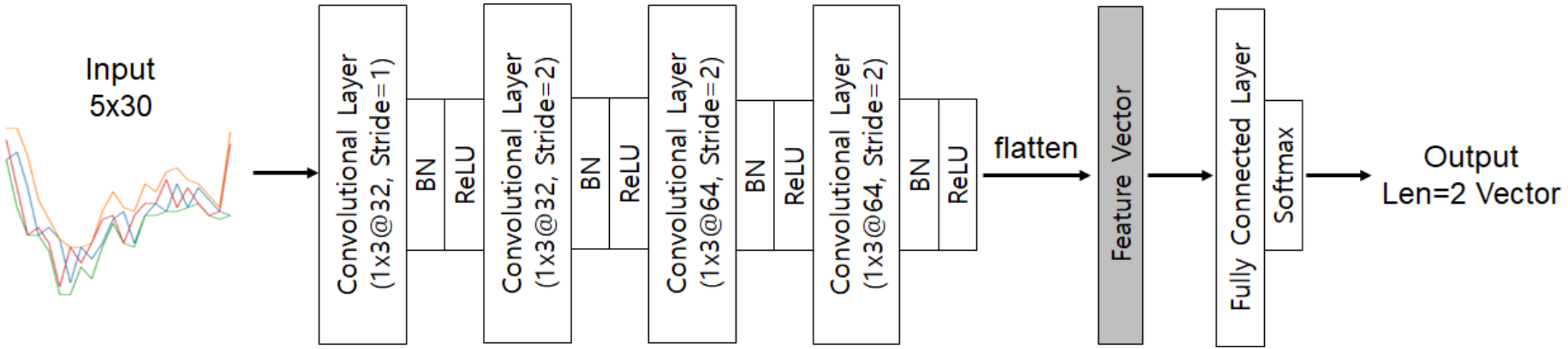
= [256,5,30]



Total 5867 samples -> 80% train set, 20% valid set, test set

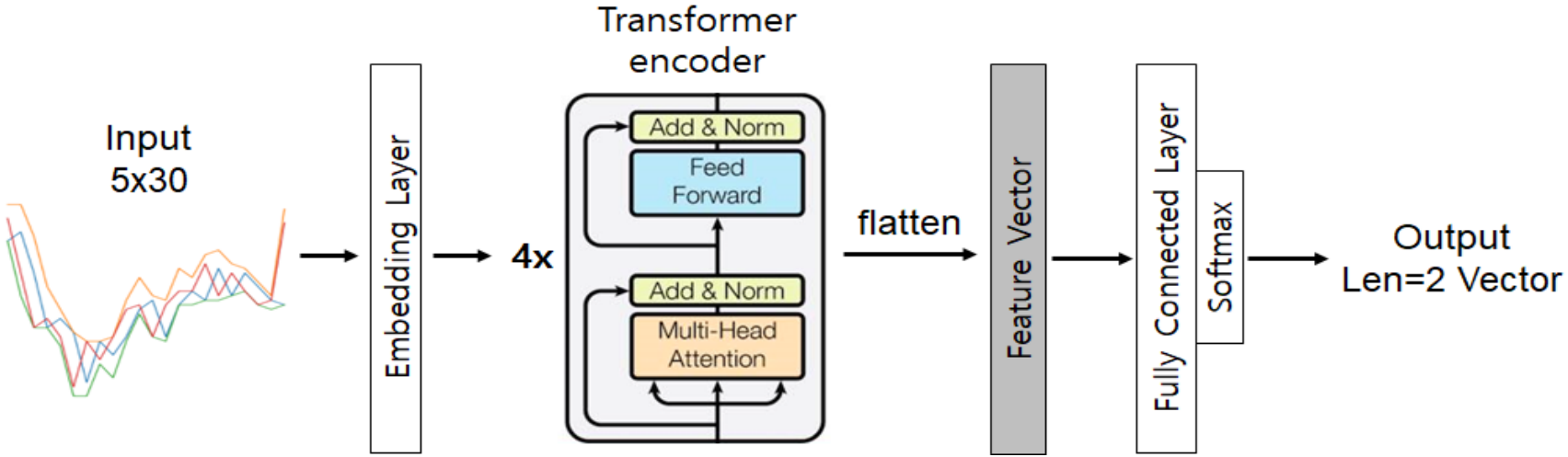
AI Model Development

- 1D-CNN model



AI Model Development

- Transformer model



Results

- 1D-CNN model

	+1% 수익	-1% 손실
매수	216	156
관망	331	391

Buy rate = (216+156)/(216+156+331+391) = 34.0%

Precision = 216/(216+156) = **58.1%**

Results

- Transformer model

	+1% 수익	-1% 손실
매수	175	114
관망	372	433

Buy rate = (175+114)/(175+114+372+433) = 26.4%

Precision = 175/(175+114) = **60.5%** (연 환산 수익률 52%)

Next Steps

1. Try various parameters for data preprocessing

1. Use all stock data to train Autoencoder
   ≈ 40,000,000 X 6 X 8

3. Find better data distribution for prediction model to train easily.