# Optimized Kalman Filter

Mathys Vinatier

Seoul National University

September 23, 2025

# Encoder Transformer Results

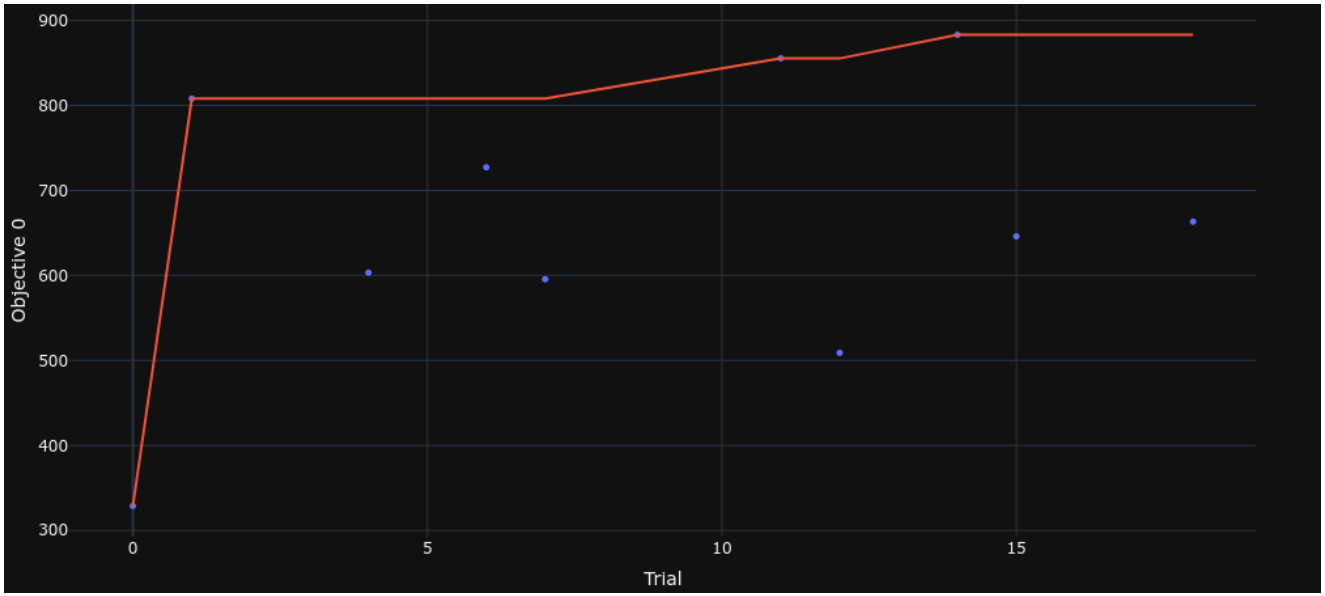


Figure 1: Encoder Transformer Best optuna trials

# Encoder Transformer Results

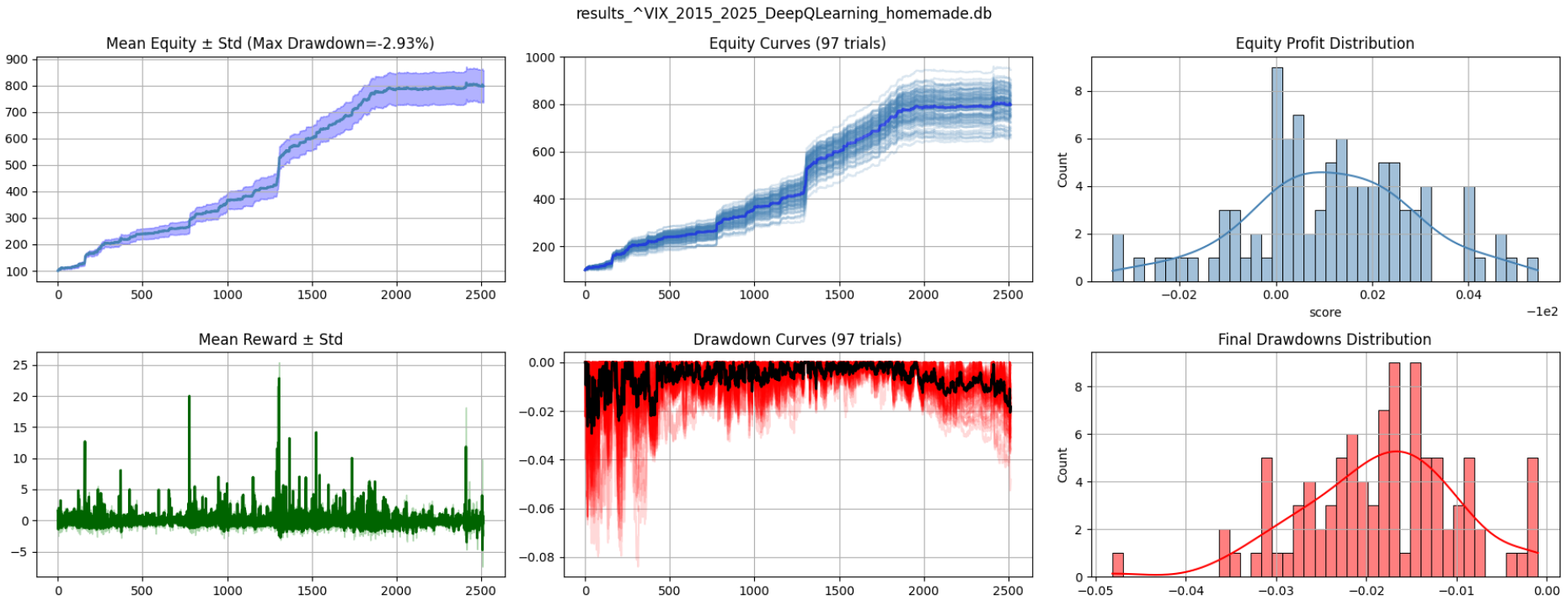


Figure 2: Bests Encoder Transformer

# Encoder Transformer Results

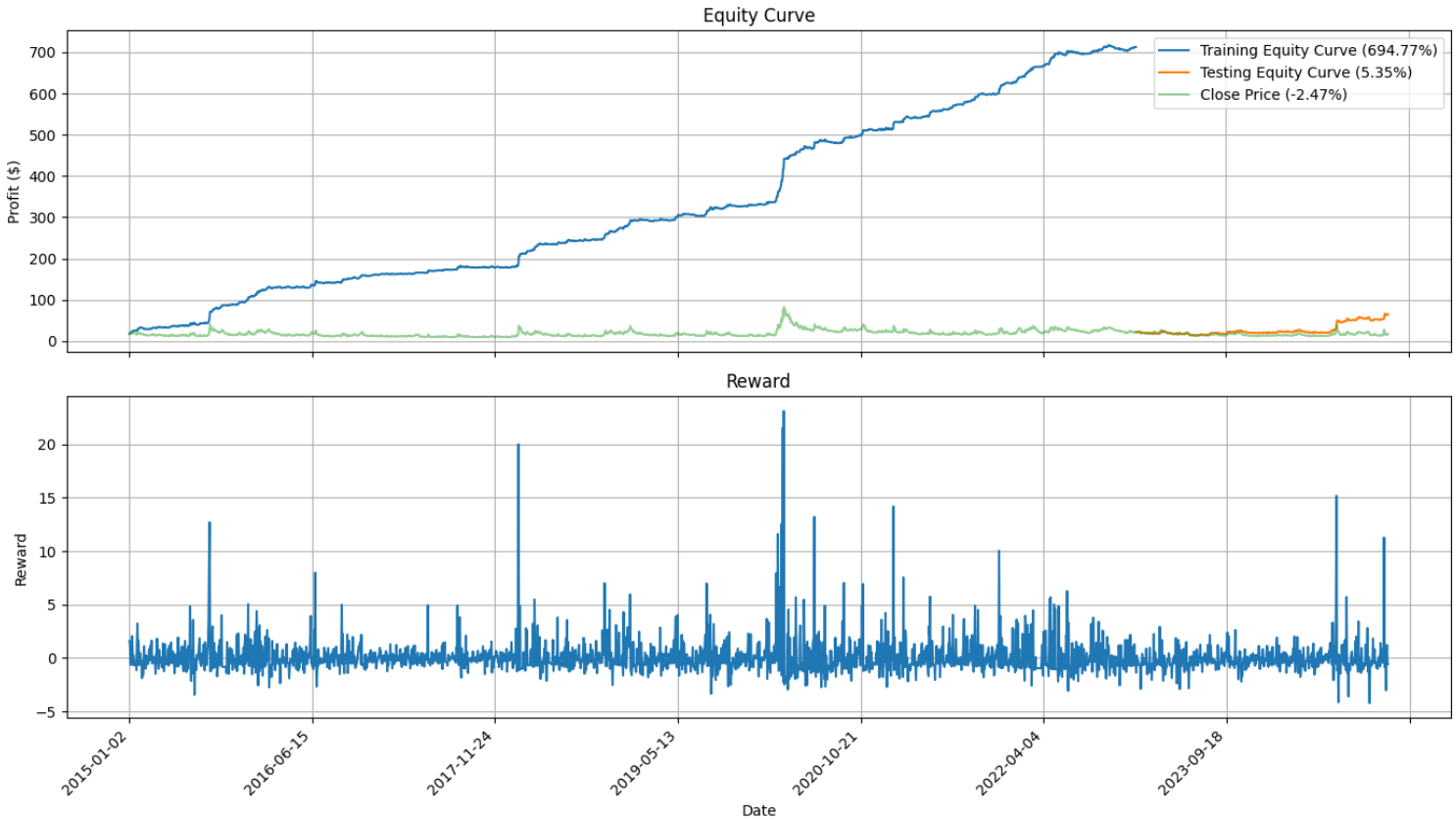


Figure 3: Encoder Transformer Results

# Encoder Transformer Results

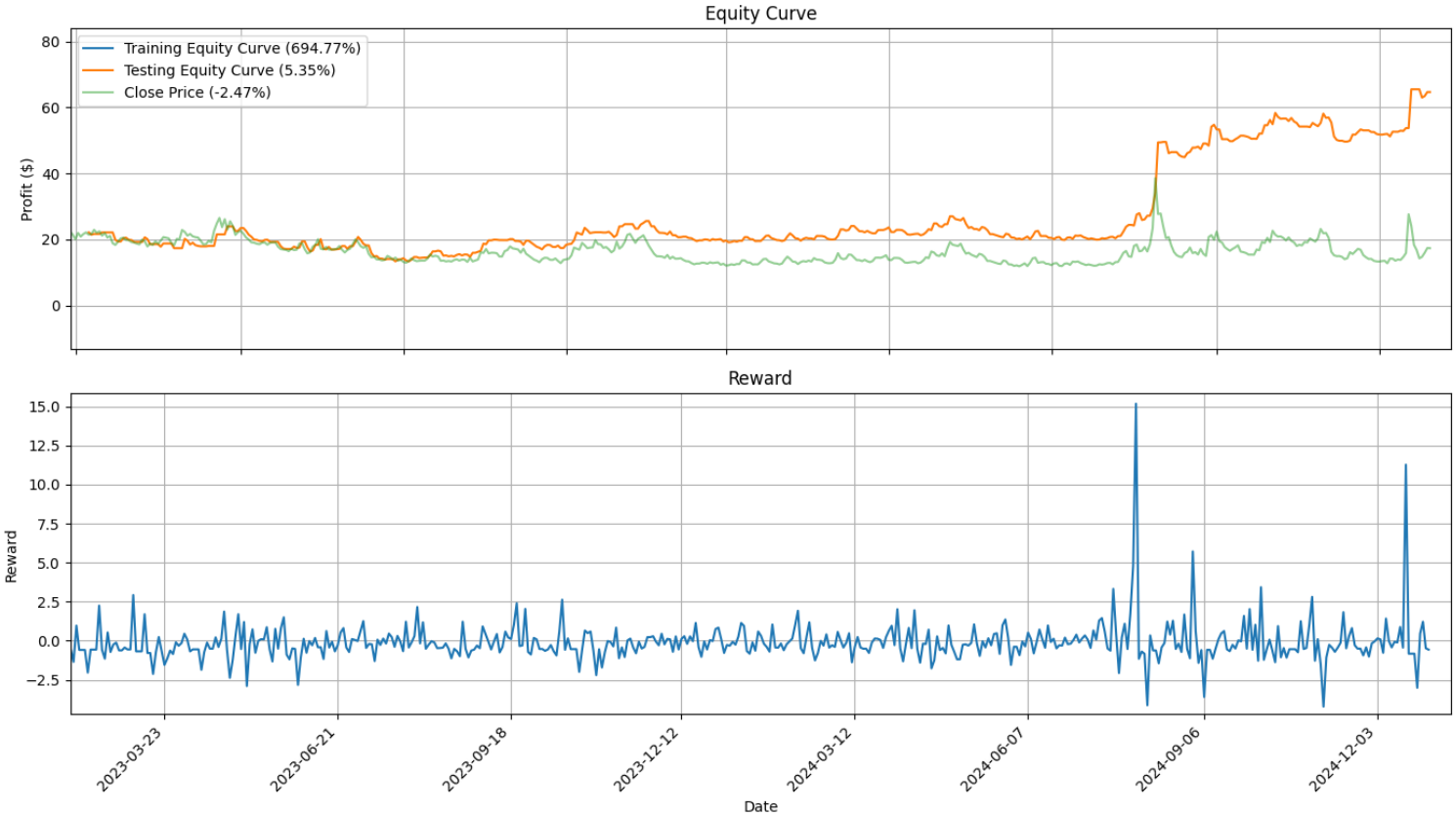


Figure 4: Encoder Transformer Results (test focus)

# GPT Transformer Results

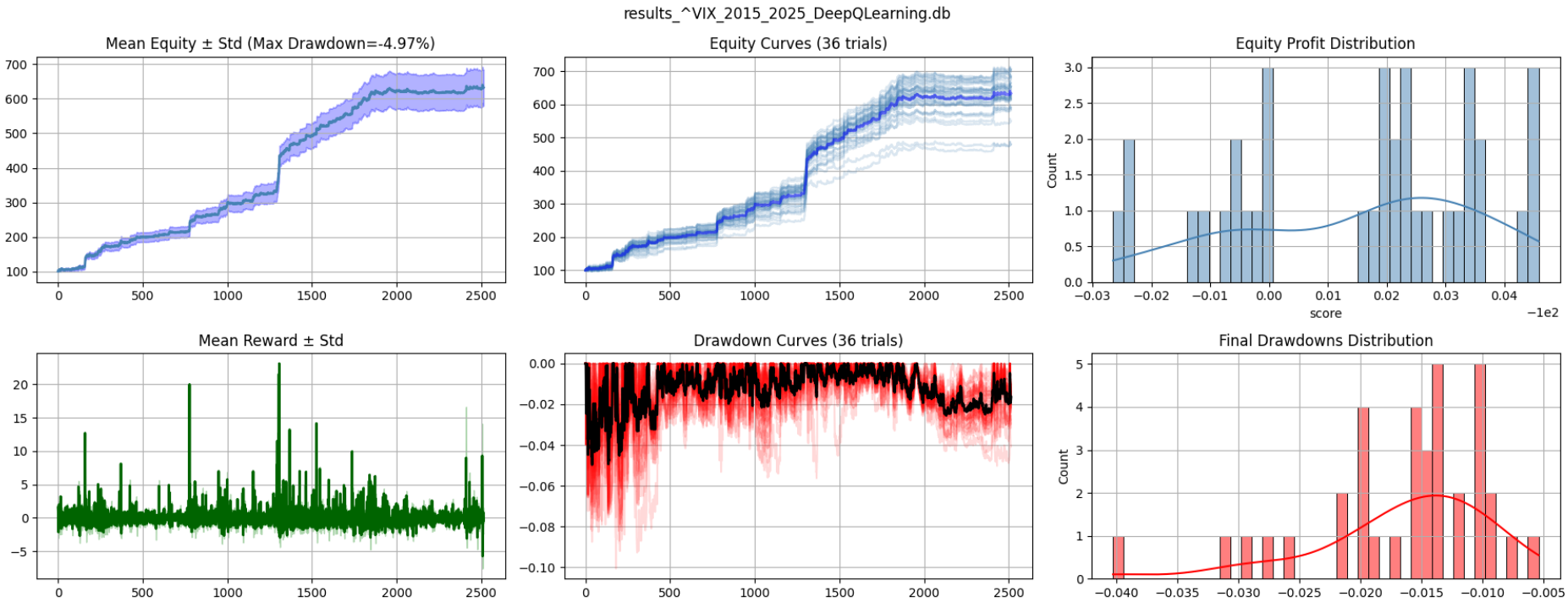


Figure 5: GPT Transformer Agents

# GPT Transformer Results

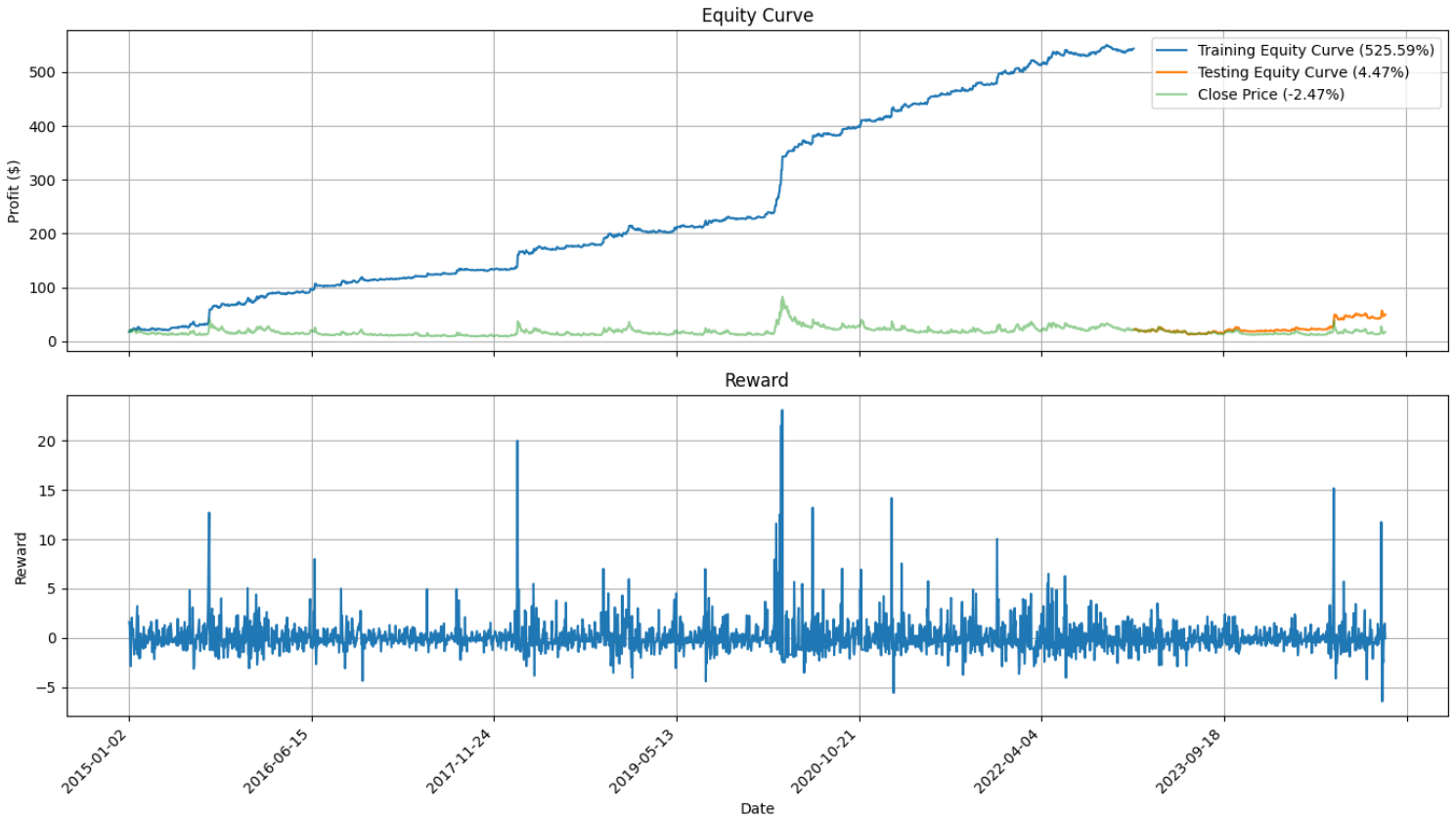


Figure 6: Best GPT Transformer Agents

# GPT Transformer Results

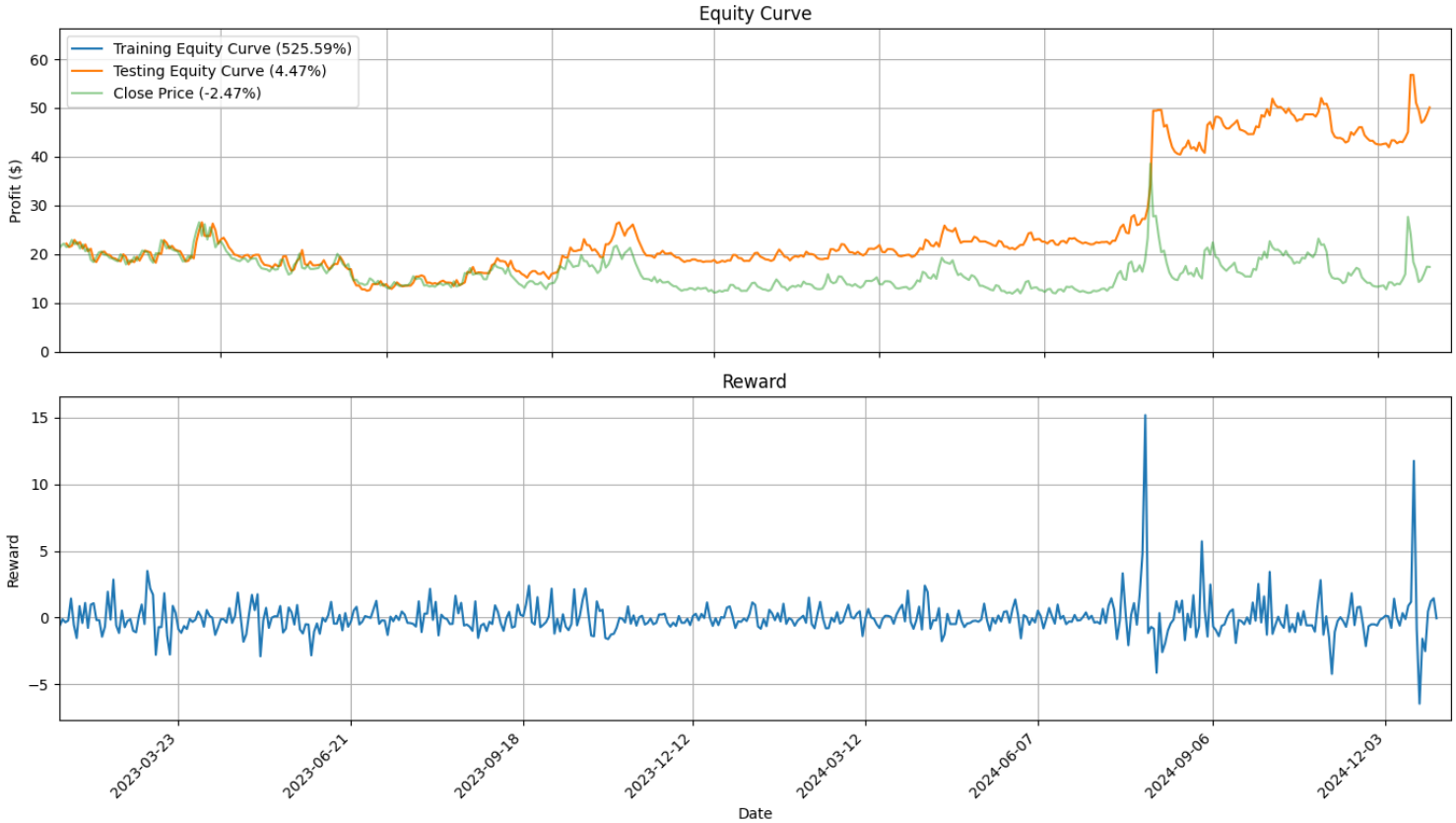


Figure 7: Best GPT Transformer Agents (test focus)

# Agent comparison for VIX

| | **Q-Learning** | **Encoder Transformer** | **GPT Transformer** |
|---|---|---|---|
| *Agent Training Profit* | 163.76% | 697.77% | 525.59% |
| *Agent Testing Profit* | 9.89% | 5.35% | 4.47% |
| *Max Drawdown* | 27.60% | 2.93% | 4.97% |

# Thank You