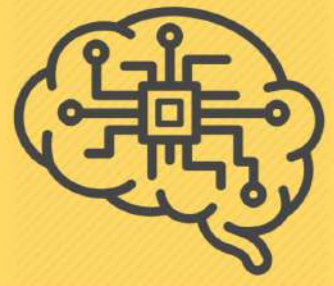
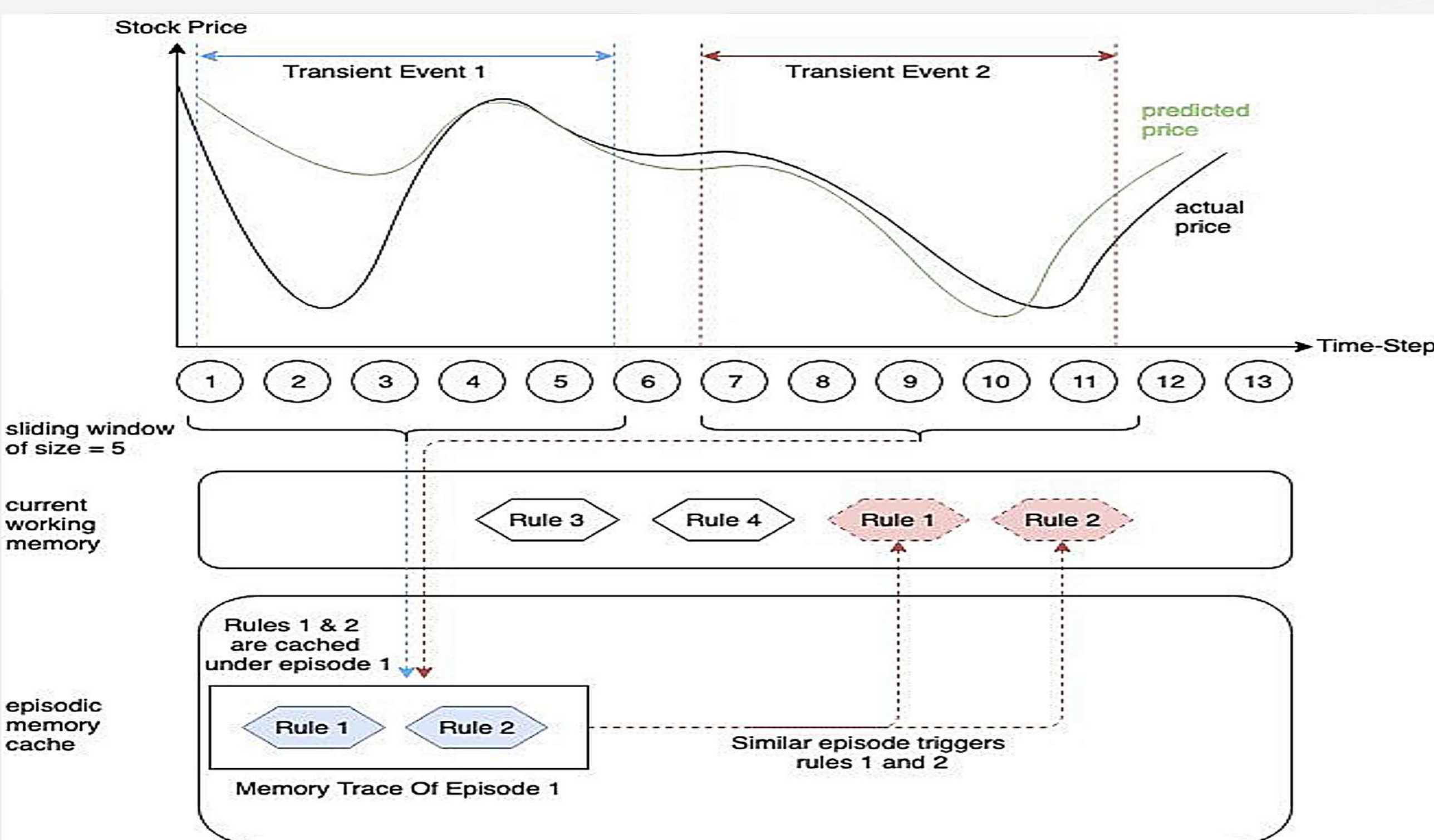
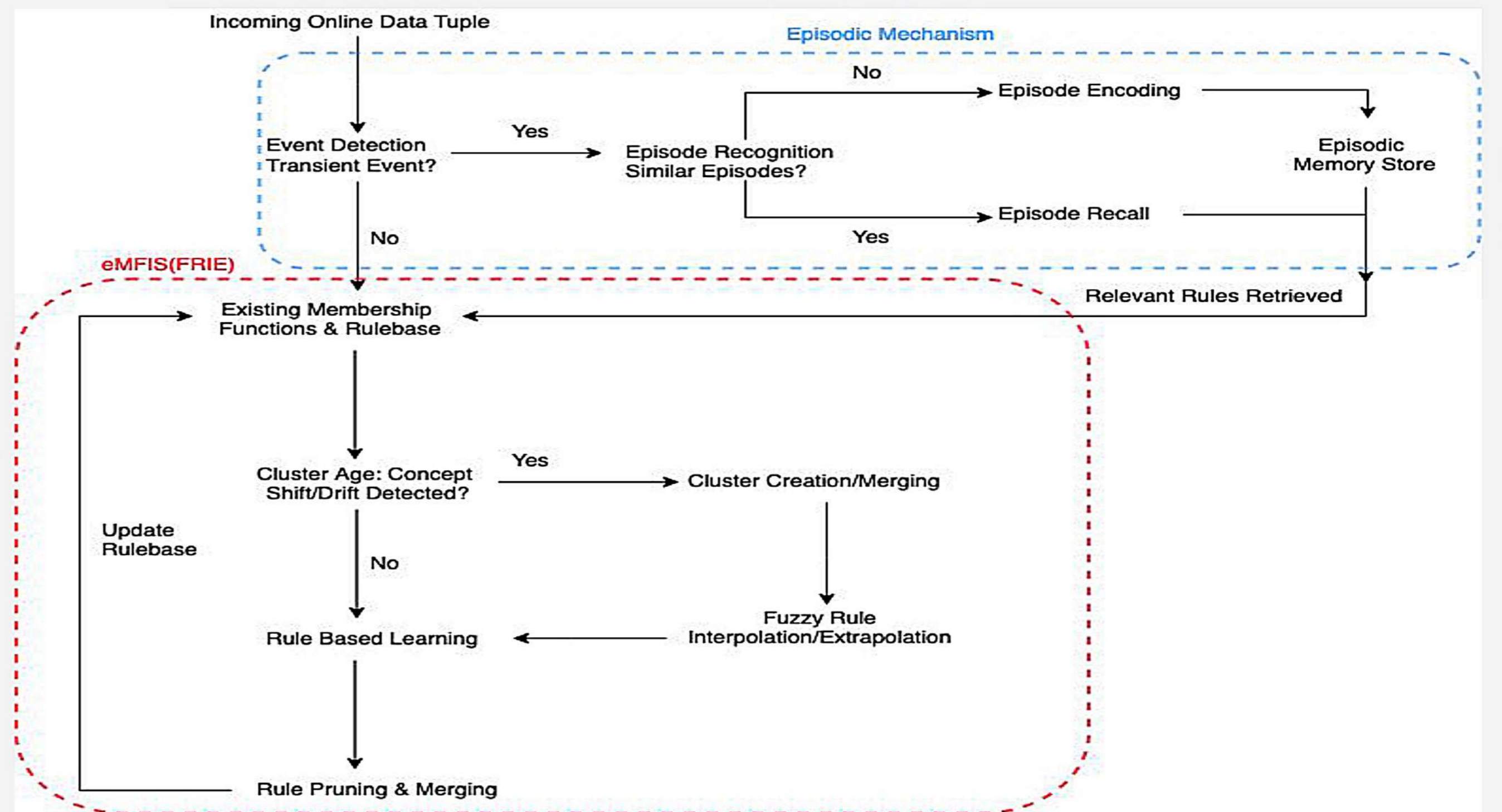


GEMM-eMFIS(FRIE): A Novel General Episodic Memory Mechanism for Fuzzy Neural Networks



What

- Memory mechanism inspired by episodic theory and multi-store model
- Integrated into eMFIS(FRIE) to predict transient behaviour during financial crisis
- Works with other learning mechanisms such as BCM learning, Rule Pruning, Cluster Creation, Fuzzy Interpolation/Extrapolation



How

- Uses the processes of Event Detection, Episode Encoding, Episode Recognition and Episode Recall to store and retrieve transient events
- Relevant rules from most similarly recalled episode are injected into the system to deal with rapid changes in the target



Results

- 3 - 5 % accuracy improvement on SNP500, DJIA, Ford, MSFT, Rainfall Datasets, especially during transient periods
- 4-5 % more interpretable due to fewer rules and provides traders access to a growing base of episodic events they can use to anticipate financial crisis'
- Straddle Option Trading shows gains of 2-3% per trade during periods of large volatility

