- LSTM contains memory cells and gates to control info
- LSTM model captures long term patterns in data
- Ability to add external variables (ex. Inflation other stock prices etc.)
- Outcome based on 3 main factors:
    - Cell state = longterm memory
    - Previous hidden state = output from past time
    - Input data at current time
- 3 gates which control info flow (all individual neural networks)
    - Forget gate = determine what parts of previous memory are important for prediction based on previous output and new data
        - Previous output and new data are input into network that outputs values between 0 and 1 for each element
        - Closer to 0 = irrelevant and closer to 1 = important, filters data based on importance
        - Multiplies values by previous cell state, which devalues irrelevant data and prevents them from predicting future data
    - New Memory Network = uses prev output and new data to make list of updates to previous memory
        - Outputs values between -1 and 1 due to tanh function, important to further reduce influence of bad updates
        - Network doesn't determine if new input data is important, which is why input gate is required
    - Input gate = identify what new info should be added into memory based on previous output and new data
        - Outputs 0 to 1, filters the same way
        - Multiplied to update list to devalue irrelevant input data
        - Final combination used to update previous memory