MEETING NOTES : LAB 3 PART 2

Team Details:

Team Name: Infinity & Beyond

Name	USC ID
Ishita Katiyar	5786162985
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Meeting Notes for Day 1

Date: 9/15/2024

Agenda:

- Review stock price prediction assignment requirements.
- Discuss different algorithmic approaches: Simple Moving Average (SMA) and Long Short-Term Memory (LSTM).
- Assign tasks for algorithm exploration.

Minutes:

- Reviewed assignment requirements for stock price prediction and trading simulation.
- Discussed SMA and LSTM models, focusing on their applications in stock prediction.
- Decided to start with SMA for simplicity and later expand to the LSTM model for enhanced prediction accuracy.
- Set deadlines for initial research and implementation.

Action Items:

- **Ishita:** Research and explore the SMA algorithm.
- **Tushar:** Research the LSTM model and its use in stock prediction.
- **Dattateja:** Compare SMA and LSTM models for discussion.

Meeting Notes for Day 2

Date: 9/16/2024

Agenda:

- Present findings from SMA and LSTM research.
- Decide on the algorithm for stock prediction.
- Plan implementation of the selected algorithms.

Minutes:

- Ishita presented SMA's workings and short-term benefits.
- Tushar explained LSTM's ability to manage sequential data and stock trend predictions.
- Dattateja compared the models, pointing out LSTM's potential to detect complex patterns.
- Decided to implement both SMA and LSTM for comparison.

Action Items:

- **Ishita:** Implement SMA using Yahoo Finance data.
- **Tushar:** Implement the LSTM model using TensorFlow.
- **Dattateja:** Coordinate the integration of the models and prepare mock trading simulations.

Meeting Notes for Day 3

Date: 9/17/2024

Agenda:

- Update on SMA and LSTM model implementations.
- Discuss challenges encountered.
- Plan mock trading setup.

Minutes:

- Ishita finished SMA with buy/sell signals based on 50-day and 200-day EMA crossovers.
- Tushar reported on the LSTM, resolving scaling issues but still facing overfitting problems.
- Discussed setting up a mock trading environment to simulate trades from predictions.
- Agreed to allocate more time to tune LSTM parameters.

Action Items:

- **Ishita:** Finalize SMA and plot EMAs/signals.
- **Tushar:** Fine-tune the LSTM model to avoid overfitting.
- **Dattateja:** Work on mock trading using SMA/LSTM signals.

Meeting Notes for Day 4

Date: 9/18/2024

Agenda:

- Review progress on model integration.
- Finalize mock trading setup.
- Plan portfolio tracking and evaluation.

Minutes:

- Both SMA and LSTM were integrated, and mock trades were simulated successfully.
- Discussed setting up the trading environment, including stock selection, investment, and transaction logic.
- Agreed to track portfolio performance with total value, annualized returns, and Sharpe ratio.

Action Items:

- **Ishita:** Finalize SMA-based trading simulation and work on portfolio tracking.
- **Tushar:** Ensure LSTM predictions are optimized.
- **Dattateja:** Script performance metric calculations for both models.

Meeting Notes for Day 5

Date: 9/19/2024

Agenda:

- Finalize the mock trading environment.
- Review performance and metrics.
- Plan for final report/presentation.

Minutes:

- Mock trading is functional with effective buy/sell signals from SMA and LSTM.
- Performance metrics (portfolio value, annualized returns, Sharpe ratio) were calculated with positive results.
- LSTM captured trends better, while SMA generated reliable short-term signals.
- Divided final report and presentation tasks.

Action Items:

- **Ishita:** Complete documentation for SMA and trading results.
- **Tushar:** Document LSTM implementation and performance.
- **Dattateja:** Finalize performance metrics and presentation slides.

Meeting Notes for Day 6

Date: 9/20/2024

Agenda:

- Review results and finalize report.
- Prepare for final presentation.
- Conclude model performance comparison.

Minutes:

- The report and presentation are almost complete, with a thorough discussion of LSTM and SMA model differences.
- LSTM demonstrated stronger predictive capabilities for capturing trends, while SMA was better suited for shorter intervals.
- Agreed on a balanced conclusion highlighting the advantages of both models in different contexts.
- Final touch-ups on the report and presentation were assigned.

Action Items:

- **Ishita:** Finalize SMA visualizations and add them to the presentation.
- **Tushar:** Proofread LSTM code and finalize the model section in the report.
- **Dattateja:** Ensure all performance metrics are correctly represented in the slides.