6. Feedback & Evaluation

6.1 Lecturer's Assessment

The instructor provided **constructive feedback**, highlighting both the **strengths** and **areas for improvement** in the project. The evaluation covered several key aspects:

6.2 Strengths

1. **Concept & Innovation**
    - The project introduces an **AI-powered prediction system** with a well-defined structure.
    - The **hierarchical neural network** approach provides flexibility for different data types.
2. **Technical Implementation**
    - The use of **multiple neural network architectures** (LSTM, transformer-based, etc.) demonstrates an advanced understanding of AI models.
    - **Integration with APIs** (Cohere, Whisper, etc.) enhances interactivity and usability.
3. **Modular & Scalable Approach**
    - Models are trained **independently and then combined**, allowing better generalization.
    - **Separation of domain-specific and supervisory networks** ensures adaptability.

6.3 Areas for Improvement

1. **Clarity in Problem Statement & Objectives**
    - The project needs a **more concise problem definition** and **clearer objectives**.
    - Real-world applicability should be more **explicitly stated**.
2. **Refinement of Data Flow & System Design**
    - The **Data Flow Diagrams (DFD)** and **system interactions** need more clarity.
    - **Component relationships** should be **better documented** to show dependencies.
3. **Optimization of AI Models**
    - Performance can be improved through **better hyperparameter tuning** and **data preprocessing**.
    - More **benchmark comparisons** with existing methods should be included.
4. **Enhancement of UI/UX & Frontend**

- The **Streamlit interface** should be more **intuitive and visually appealing**.
- More user-friendly **error handling and feedback mechanisms** need to be added.

5. **Deployment & Integration Improvements**
    - The **deployment strategy** should be more **clearly defined**, including **Dockerization and cloud integration**.
    - **Real-time model inference** and API performance should be optimized.
6. **Comprehensive Evaluation & Testing**
    - The project should include more **performance metrics** (beyond RMSE, MAE).
    - **User testing and feedback collection** should be incorporated to improve usability.

6.4 Next Steps & Action Plan

- **Revise documentation** to make system design and objectives clearer.
- **Optimize model performance** through hyperparameter tuning and additional training.
- **Improve UI/UX** for better user engagement.
- **Refine deployment strategy** for better scalability.
- **Conduct user testing** and update based on real-world feedback.