

# CSE299 Weekly Updates

Week-1: Wednesday, 22 January, 2025			
Group Member's Info.	Assigned Tasks	This Week Tasks	Next Week Tasks
Saif Mohammed 2121913042	Domain-1: Health <ul style="list-style-type: none"><li>• Project Ideas</li><li>• Research Papers</li><li>• Relevant Datasets</li></ul>	1. Finalize 3/4 Machine Learning Project Topics. 2. Find related research, journal, or conference papers. 3. Search for relevant datasets for the selected topics.	Prepare Two Project Proposal Presentation(Bemar)  1. Brief about the project (in bullet points ), what is the expected outcome and problem statement of the project with images 2. Methodology/ Feature list / Dataset Details 3. A diagram explaining the project 4. Technology stack 5. Gantt chart explaining the timeline 6. Work distribution
Humayra Rahman Nipa 2121128042	Domain-2: Social Media <ul style="list-style-type: none"><li>• Project Ideas</li><li>• Research Papers</li><li>• Relevant Datasets</li></ul>		
Nazibul Islam Nabil 2222456642	Domain-3: Fisheries <ul style="list-style-type: none"><li>• Project Ideas</li><li>• Research Papers</li><li>• Relevant Dataset</li></ul>		
Umme Suraia Haque Setu 2031278642	Domain-4: Education <ul style="list-style-type: none"><li>• Project Ideas</li><li>• Research Papers</li><li>• Relevant Datasets</li></ul>		

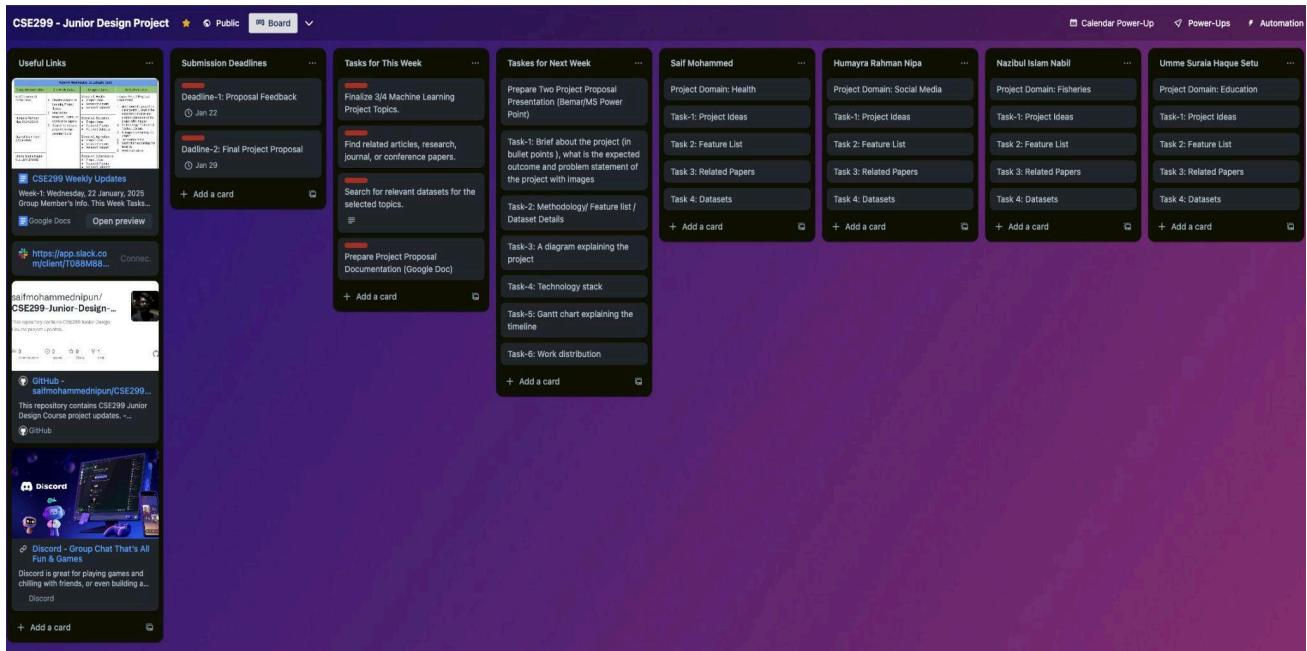
Week-1: Summary				
Project Domain	Project Ideas	Feature List	Related Papers	Datasets
Health	LLM-Enhanced Machine Learning System for Diabetes Prediction and Personalized Lifestyle Suggetion  <span style="background-color: green; color: white; padding: 2px;">Approved Project</span>	1. Diabetic Risk prediction 2. Smart Report Generation 3. Conversational Health Assistant (Powered by LLM) 4. Personalized Lifestyle Recommendations	1. <a href="#">Diagnosis of diabetes using machine learning algorithms - ScienceDirect</a> 2. <a href="#">Evaluating Machine Learning Methods for Predicting Diabetes among Female Patients in Bangladesh</a> 3. <a href="#">Predicting the Onset of Diabetes with Machine Learning Methods</a>	1. <a href="#">Pima Indians Diabetes Database</a> 2. <a href="#">Diabetes Dataset</a> 3. <a href="#">Sleep Health and Lifestyle Dataset</a> 4. <a href="#">Diabetes prediction dataset</a> 5. <a href="#">Type-2 Diabetes (Bangladeshi Patients) - Mendeley Data</a> 6. <a href="https://data.mendeley.com/datasets/7m7555vgrn/1">https://data.mendeley.com/datasets/7m7555vgrn/1</a> 7. <a href="https://data.uvu.ac.bd/dataset/iriic/1">https://data.uvu.ac.bd/dataset/iriic/1</a>

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|--|--|--|--|--|
|  |  |  | <p>4. <a href="#">Diabetes prediction using supervised machine learning - ScienceDirect</a></p> <p>5. <a href="#">Pima Indians diabetes mellitus classification based on machine learning (ML) algorithms   Neural Computing and Applications</a></p> <p>6. <a href="#">Empowerment in Type 2 diabetes: A patient-centred approach for lifestyle change - ScienceDirect</a></p> <p>7. <a href="#">ChatDiet: Empowering Personalized Nutrition-Oriented Food Recommender Chatbots through an LLM-Augmented Framework</a></p> <p>8. <a href="#">DiaHealth: A smart app for complete diabetes lifestyle management   IEEE Conference Publication</a></p> <p>9. <a href="#">10.61356/j.scin.2024.1306</a></p> <p>10. <a href="https://www.researchgate.net/publication/377275662_A_Proposed_Technique_Using_Machine_Learning_for_the_Prediction_of_Diabetes_Disorder_through_a_Mobile_App">https://www.researchgate.net/publication/377275662_A_Proposed_Technique_Using_Machine_Learning_for_the_Prediction_of_Diabetes_Disorder_through_a_Mobile_App</a></p> |  |
|--|--|--|--|--|

	LLM-Driven Machine Learning System for Medical Image Diagnosis and Personalized Medication Suggestions	<ol style="list-style-type: none"> <li>1. Automated Medical Image Analysis</li> <li>2. AI powered report Generation</li> <li>3. Personalized Medication Suggestion</li> <li>4. Conversational AI Health Assistant</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">Comparative Analysis of M4CXR, an LLM-Based Chest X-Ray Report Generation Model, and ChatGPT in Radiological Interpretation</a></li> <li>2. <a href="#">Health-LLM: Personalized Retrieval-Augmented Disease Prediction System</a></li> <li>3. <a href="#">Revolutionizing Radiology With Artificial Intelligence - PMC</a></li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">NIH Chest X-ray Dataset</a></li> <li>2. <a href="#">Chest X-Ray Images (Pneumonia)</a></li> <li>3. <a href="#">Chest X-Ray Image - Mendeley Data</a></li> <li>4. <a href="#">COVID-19 Radiography Database</a></li> <li>5. <a href="https://doi.org/10.6084/m9.figshare.22363012.v6">https://doi.org/10.6084/m9.figshare.22363012.v6</a></li> <li>6. <a href="#">Personalized Medication Dataset</a></li> <li>7. <a href="https://data.mendeley.com/datasets/m7w55sw88b/1">https://data.mendeley.com/datasets/m7w55sw88b/1</a></li> <li>8. <a href="https://www.kaggle.com/datasets/toriqustu/ai-medicine-and-drug-prize-data20k-bangladesh/code">https://www.kaggle.com/datasets/toriqustu/ai-medicine-and-drug-prize-data20k-bangladesh/code</a></li> </ol>
	Risk Factor Prediction of Chronic Kidney Disease based on Machine Learning Algorithms	<ol style="list-style-type: none"> <li>1. Predicting CKD Risk Based on Patient Demographics and Medical History</li> <li>2. Early Detection of CKD Using Lab Results</li> <li>3. Monitoring CKD Progression Over Time</li> <li>4. Identifying the Impact of Lifestyle Factors on CKD Risk</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">ACD-ML: Advanced CKD detection using machine learning: A tri-phase ensemble and multi-layered stacking and blending approach - ScienceDirect</a></li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">Risk Factor Prediction of Chronic Kidney Disease - UCI Machine Learning Repository</a></li> </ol>
	Automated Fish Species Identification and Classification for Sustainable Fisheries Management in Bangladesh	<ol style="list-style-type: none"> <li>1. Image Classification for Fish Species Identification</li> <li>2. Species Detection from Image Regions</li> <li>3. Fish Size and Growth Prediction</li> <li>4. Fish Species Distribution Analysis</li> <li>5. Fish Conservation and Biodiversity Risk Assessment</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="https://fishtaxa.com/menuscript/index.php/ft/article/view/223/203">https://fishtaxa.com/menuscript/index.php/ft/article/view/223/203</a></li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="https://data.mendeley.com/datasets/8jvxtvz52x/2">https://data.mendeley.com/datasets/8jvxtvz52x/2</a></li> </ol>

Fisheries				
	DriedFishIQ: Intelligent Dried Fish Identification and Quality Assessment System	<ol style="list-style-type: none"> <li>1. Fish Variety Identification (ML)</li> <li>2. Quality Assessment (ML)</li> <li>3. Fish Information Retrieval Chatbot (LLM)</li> <li>4. Market Trend Analysis (LLM)</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">Data Article Dried fish dataset for Indian seafood: A machine learning application</a></li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">DriedFishBD: A Detailed Image Dataset of Common Small-sized Dried Fish Varieties in Bangladesh for Identification and Classification. - Mendeley Data</a></li> </ol>
Education	Analysis of Bangladeshi Student Performance for Personalized Educational Insights and Career Path Recommendations	<ol style="list-style-type: none"> <li>1. Academic Performance Prediction</li> <li>2. Dropout Risk Identification</li> <li>3. Extracurricular Activity Impact Analysis</li> <li>4. Personalized Career Path Recommendation</li> <li>5. Student Success Factor Analysis</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">Classification and prediction of student performance data using various machine learning algorithms</a></li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">Student Performance-BD</a></li> </ol>
Social Media	Sentiment Analysis Framework for Exploring Global Social Media Trends and Emotional Insights	<ol style="list-style-type: none"> <li>1. Sentiment Classification and Trend Detection</li> <li>2. Emotion Detection and Intensity Scoring</li> <li>3. Hashtag Sentiment Analysis and Topic Modeling</li> <li>4. Geolocation-Based Sentiment Analysis</li> <li>5. User Engagement Sentiment Correlation</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">Machine learning techniques for emotion detection and sentiment analysis: current state, challenges, and future directions</a></li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="#">Social Media Sentiments Analysis Dataset</a></li> </ol>

## Trello Board Screenshot



## Group Discussion Screenshots (Slack)

 **Saif Mohammed 2121913642** 18:39  
@Saif Mohammed 2121913642 has renamed the channel from "all-cse299-group-discussion" to "cse299-group-discussion".

**This Week Tasks:**

1. Finalize 3/4 Machine Learning Project Topics.
2. Find related research, journal, or conference papers.
3. Search for relevant datasets for the selected topics. (edited)

**First Meeting on Friday, 17.01.2025, at 11:00 PM**  
Duration: 1hr  
Topics:  
1. Tech Introduction  
2. This Week Tasks  
3. Work Distribution

**Jan 20th**

 **Nazibul Islam Nabil 2222456642** 21:05  
Two project ideas related to Fisheries suggested with feature lists, relevant articles and datasets on machine learning. (edited)

**Yesterday**

 **Humayra Rahman Nipa 2121128642** 23:06  
Suggested one project idea related to social media, including a list of features, relevant articles, and a dataset.

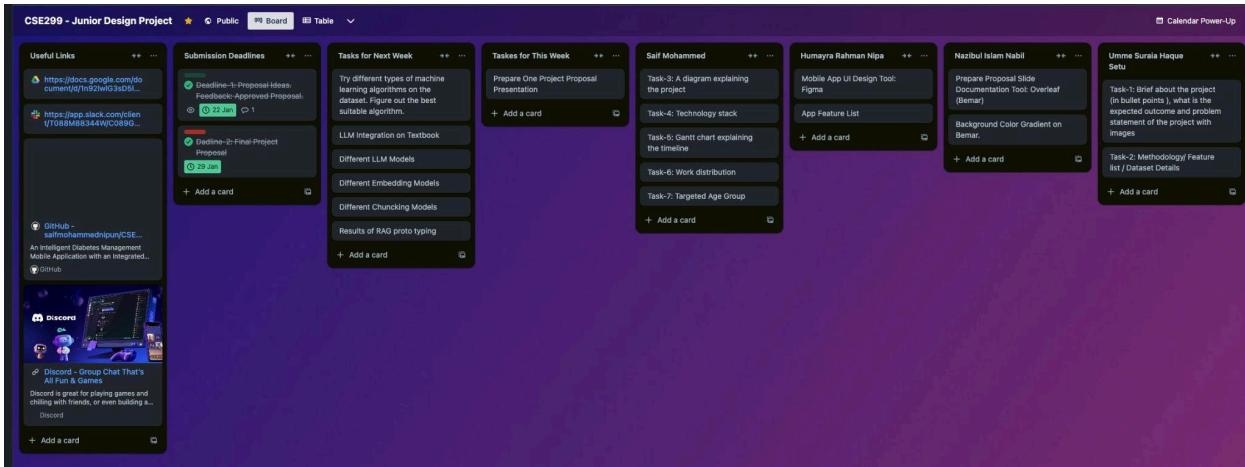
**Today**

 **Saif Mohammed 2121913642** 08:43  
Proposed three project ideas related to the health domain, detailing its key features, referencing relevant papers, and datasets on machine learning.

## Week-2: Wednesday, 29 January, 2025

Group Member's Info.	Assigned Tasks	This Week Tasks	Next Week Tasks
Saif Mohammed 2121913042	<p>Project Proposal Topics:</p> <ol style="list-style-type: none"> <li>1. A diagram explaining the project</li> <li>2. Technology stack</li> <li>3. Gantt chart explaining the timeline  <a href="#">Gantt Chart</a></li> <li>4. Work distribution</li> <li>5. LaTex Overleaf (Bemar) <a href="https://www.overleaf.com/project/67715177d4bc1f42fb06168f">https://www.overleaf.com/project/67715177d4bc1f42fb06168f</a></li> </ol>	<p>Prepare One Project Proposal Presentation on Project Idea. <b>(Approved)</b></p> <ol style="list-style-type: none"> <li>1. Brief about the project (in bullet points ), what is the expected outcome and problem statement of the project with images</li> <li>2. Methodology/ Feature list / Dataset Details</li> <li>3. Targeted Age Audience</li> <li>4. A diagram explaining the project</li> <li>5. Technology stack</li> <li>6. Gantt chart explaining the timeline</li> <li>7. Work distribution.</li> </ol>	<ol style="list-style-type: none"> <li>1. FrontEnd Development for Mobile App using Flutter(Dart).</li> <li>2. Dataset Insights (ML)</li> <li>3. Exploratory Data Analysis</li> <li>4. Diabetics Textbooks on Bangladesh scenarios</li> <li>5. Learn RAG Pipeline: LangChain, LangSmith, LangGraph</li> </ol>
Humayra Rahman Nipa 2121128042	<ol style="list-style-type: none"> <li>1. Mobile App UI Design Tool: Figma</li> <li>2. Youtube Playlist: <a href="https://youtube.com/playlist?list=PLkIGXJqxff1MFE3-7mrHbhC0yMrF9fE7&amp;si=eGQ2O1ij_EY9GNt">https://youtube.com/playlist?list=PLkIGXJqxff1MFE3-7mrHbhC0yMrF9fE7&amp;si=eGQ2O1ij_EY9GNt</a></li> </ol>		
Nazibul Islam Nabil 2222456642	<ol style="list-style-type: none"> <li>1. Prepare Proposal Slide Documentation Tool: Overleaf (Bemar)</li> <li>2. Background Color Gradient on Bemar.</li> <li>3. Youtube Link/GPT Response</li> <li>4. Bemar background colour change: <a href="https://chatgpt.com/share/679284c9-6868-8009-aa91-db941ee72777">https://chatgpt.com/share/679284c9-6868-8009-aa91-db941ee72777</a></li> </ol>		
Umme Suraia Haque Setu 2031278642	<p>Project Proposal Topics:</p> <ol style="list-style-type: none"> <li>1. Brief about the project (in bullet points), what is the expected outcome and problem statement of the project with images</li> <li>2. Methodology/ Feature list / Dataset Details</li> </ol>		

## Trello Board Screenshot



## Group Discussion Screenshots (Slack)

 **Saif Mohammed 2121913642** 22:51  
Meeting Tonight @11:30 PM on Discord.  
**Date:** 20.01.2025  
**Duration:** 30 Mins  
**Topic:** Week-2 Work Distribution.

**Jan 29th**

 **Humayra Rahman Nipa 2121128642** 10:34  
Completed the Application UI using Figma.

 **Nazibul Islam Nabil 2222456642** 10:36  
Project Proposal Report done.

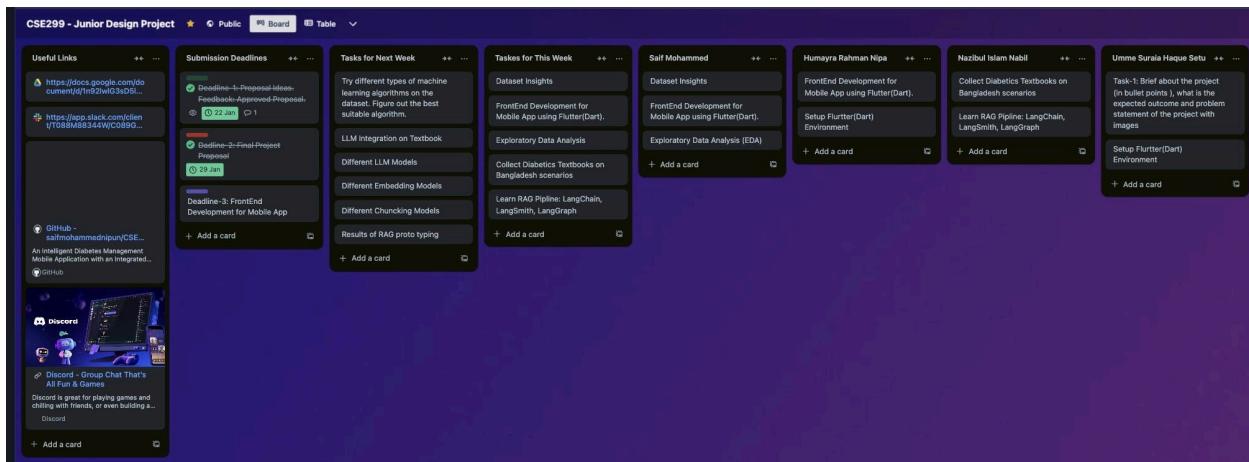
**Today**

 **Saif Mohammed 2121913642** 01:01  
Finalized Technology Stacks, Project Diagram, Gantt Chart & Work Distribuition.

## Week-3: Wednesday, 5 February, 2025

Group Member's Info.	Assigned Tasks	This Week Tasks	Next Week Tasks
Saif Mohammed 2121913042	1. Dataset Insights 2. Exploratory Data Analysis (EDA) 3. Flutter(Dart) FrontEnd Development (3 Pages) Survey, result	1. FrontEnd Development for Mobile App using Flutter(Dart). 2. Dataset Insights (ML) 3. Exploratory Data Analysis 4. Collect Diabetics Textbooks on Bangladesh scenarios	1. LLM Integration on Textbook Results of RAG prototyping Different LLM Models Different Embedding Models Different Chunking Models
Humayra Rahman Nipa 2121128042	1. Flutter FrontEnd Development (Dart) 2. Create 2 dart pages: Welcome: Welcome, Sign Up/ Login Page.	5. Learn RAG Pipeline: LangChain, LangSmith, LangGraph	2. Try Different types of Machine Learning Algorithm on the Dataset. Figure out the best suitable algorithm. 3. Model Train
Nazibul Islam Nabil 2222456642	1. Diabetics Textbooks on Bangladesh 2. Bangla & English based textbooks to feed LLMs 3. LLM Environment Setup and Prototyping		
Umme Suraia Haque Setu 2031278642	1. Flutter FrontEnd Development (Dart) 2. Create 2 dart pages User Profile & Health Data		

### Trello Board Screenshot



## Group Discussion Screenshots (Slack)

**Humayra Rahman Nipa** 7:52 AM  
**2121128642**  
Contributed to two pages on the front-end part of the mobile application.

**Nazibul Islam Nabil** 11:21 AM  
**2222456642**  
Week-3 Work Distribution updated.

**Nazibul Islam Nabil** 4:14 PM  
**2222456642**  
Created presentation slides , LLM Environment Setup and prototyping.  
(edited)

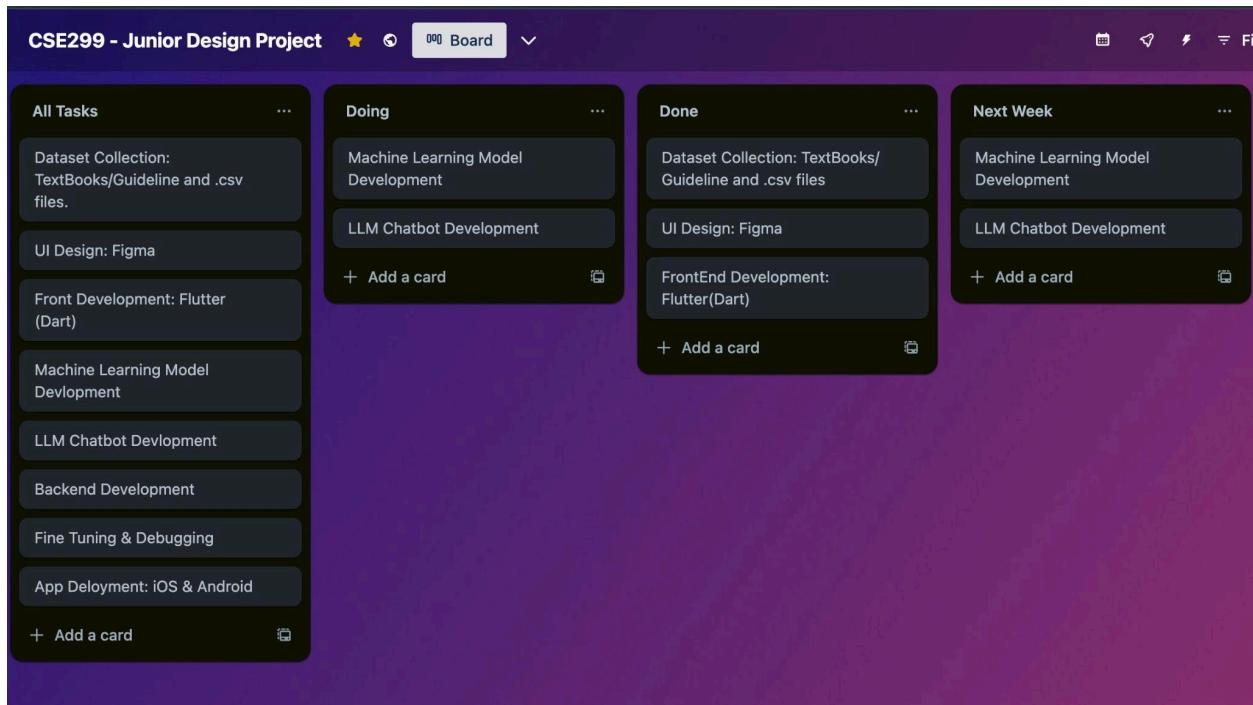
**Saif Mohammed** 2121913642 4:20 PM  
Contributed in Setup App Environment and Merge Source Code of Frontend. Dataset Insights and EDA.

**Umme Suraia Haque Setu** 4:27 PM  
**2031278642**  
created two dart pages user profile & health on the front end mobile application part

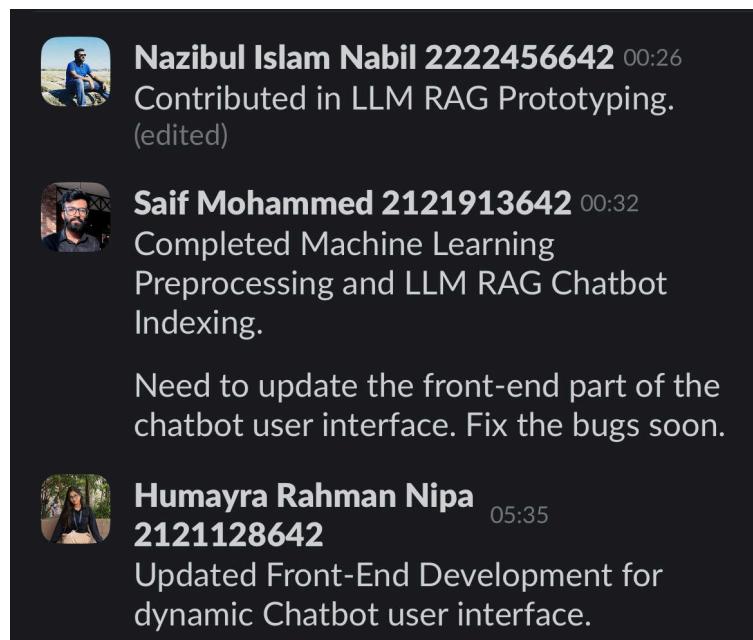
### Week-3: Wednesday, 19 February, 2025

Group Member's Info.	Assigned Tasks	Completed Tasks this Week	Next Week Tasks
Saif Mohammed 2121913042	<p>1. Preprocessing &amp; Training Set Implementation (ML)</p> <p>2. ML Part Reference Text Book: <a href="#">Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems</a>; Géron, Aurélien: <a href="#">9781098125974</a></p> <p>3. LLM Part: <a href="#">Learn RAG From Scratch – Python AI Tutorial from a LangChain Engineer</a></p> <p>4. <a href="#">[2005.11401] Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks</a></p>	<p>1. ML Part: EDA and Preprocessing</p> <p>2. LLM Part: Overview of RAG TextBook-based Chatbot using LangChain, Indexing</p> <p>3. Updated Front-End Pages DiaChat: Chatbot (Page) DiaTrak (ML Risk prediction)</p>	<p>1. LLM Integration on Multiple Source Results of RAG prototyping</p> <p>Different LLM Models</p> <p>Different Embedding Models</p> <p>Different Chunking Models</p> <p>Choose the best One.</p> <p>2. Try Different types of Machine Learning algorithms on the Dataset. Figure out the best suitable algorithm.</p> <p>3.</p>
Humayra Rahman Nipa 2121128042	<p>1. Flutter FrontEnd Development (Dart)</p> <p>2. Create dart page:: Chatbot Conversation DiaChat</p>		
Nazibul Islam Nabil 2222456642	<p>1. RAG Prototyping: <a href="#">GPT-4 Tutorial: How to Chat With Multiple PDF Files (~1000 pages of Tesla's 10-K Annual Reports)</a></p> <p>3. <a href="#">Use RAG to chat with PDFs using Deepseek, Langchain and Streamlit</a></p>		
Umme Suraia Haque Setu 2031278642	<p>1. Flutter FrontEnd Development (Dart)</p> <p>2. Create dart page: ML Risk Prediction (DiaTrack)</p>		

## Trello Board Screenshot



## Slack Conversation Screenshot:

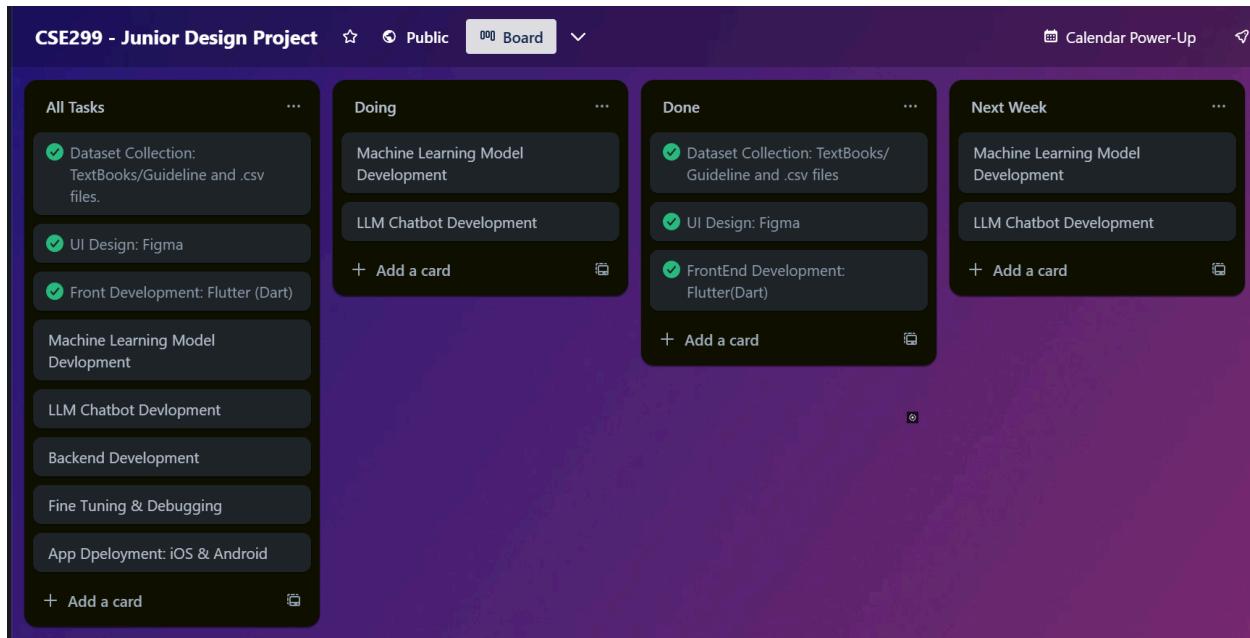


Week-3: Summary Table	
<b>1. Machine Learning Part: EDA &amp; Preprocessing</b>	<ul style="list-style-type: none"> <li>• Data Loading</li> <li>• Data Cleaning</li> <li>• Outliers Handling</li> <li>• Categorical Data Handling</li> <li>• Categorical Label Encoding</li> <li>• Visualization &amp; Dataset Insights</li> <li>• Feature Engineering; Correlation Matrix</li> <li>• Data Scaling: Standard Scalar &amp; MinMax Scalar</li> <li>• Train-Test Split</li> </ul>
<b>2. LLM Chatbot (Part-1) Overview</b>	<ul style="list-style-type: none"> <li>• Load PDF Document (BADAS Guideline 2019)</li> <li>• Splitting Documents Chunks</li> <li>• Embedding</li> <li>• Retrieval and Generation</li> <li>• Chain</li> <li>• Basic Q&amp;A</li> </ul>
<b>3. LLM Chatbot (Part-2) Indexing</b>	<ul style="list-style-type: none"> <li>• Count tokens with tittoken</li> <li>• Text Embedding Models</li> <li>• Cosine Similarity</li> <li>• Retrieval</li> <li>• Generation</li> <li>• RAG Chain</li> </ul>
<b>4. FrontEnd Update Flutter</b>	<ul style="list-style-type: none"> <li>• Chatbot and DiaTrack Input Fields</li> </ul>

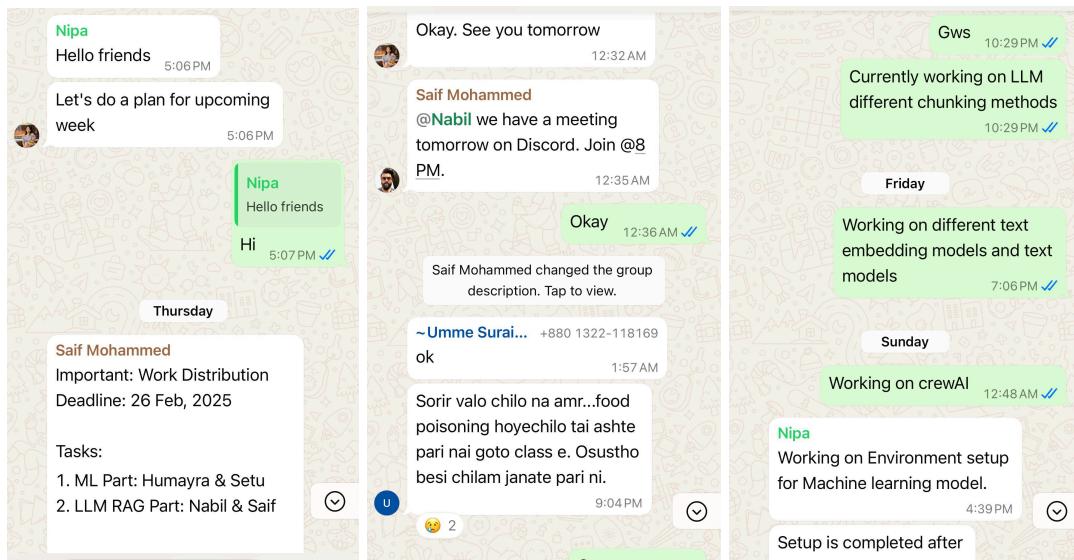
## Week-4: Wednesday, 27 February, 2025

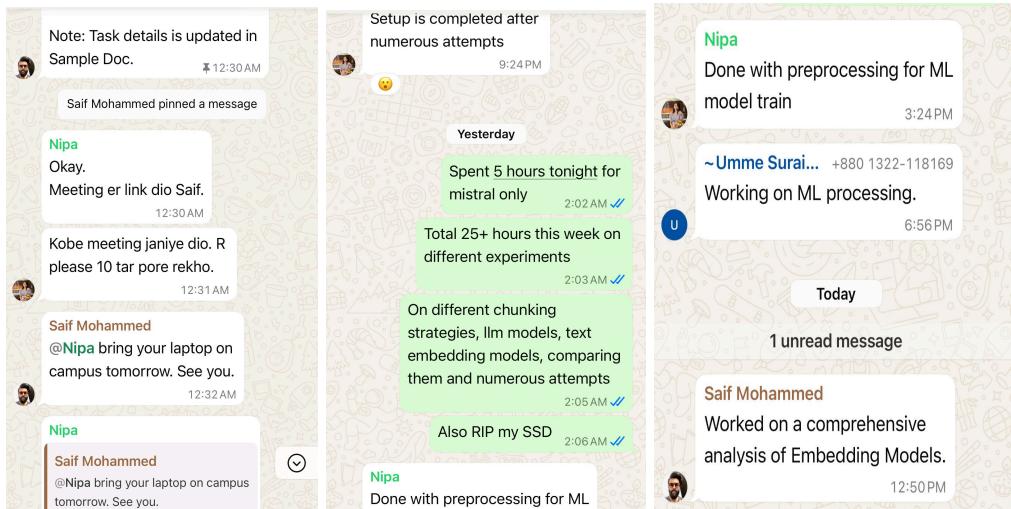
Group Member's Info.	Assigned Tasks	Completed Tasks this Week	Next Week Tasks
Saif Mohammed 2121913042	1. Try Different Chunking Strategies & Evaluation 2. Different Embedding Models and find Cosine Similarities	1. LLM Integration on Multiple Source  Different LLM Models  Different Embedding Models  Different Chunking Models  Choose the best One.	1. A working version of the Diabetes chatbot that are widely used.  2. Metrics used to calculate chatbot performance  3. A test plan that includes:  Test data collection/curation plan  4. Manual testing plan (incorporating more than 10 users)  5. Try Different types of Machine Learning algorithms on the Dataset. Figure out the best suitable algorithm.
Humayra Rahman Nipa 2121128042	1. Try Different Machine Learning Algorithms (Classification)		
Nazibul Islam Nabil 2222456642	1. Different LLM Models 2. Different Embedding Models 3. Different Chunking Strategies  The BEST Way to ...	2. Try Different types of Machine Learning Algorithms on the Dataset.  Figure out the best suitable algorithm.	
Umme Suraia Haque Setu 2031278642	1. Try Different Machine Learning Algorithms (Classification)		

## Trello Board Screenshot



## WhatsApp Screenshots



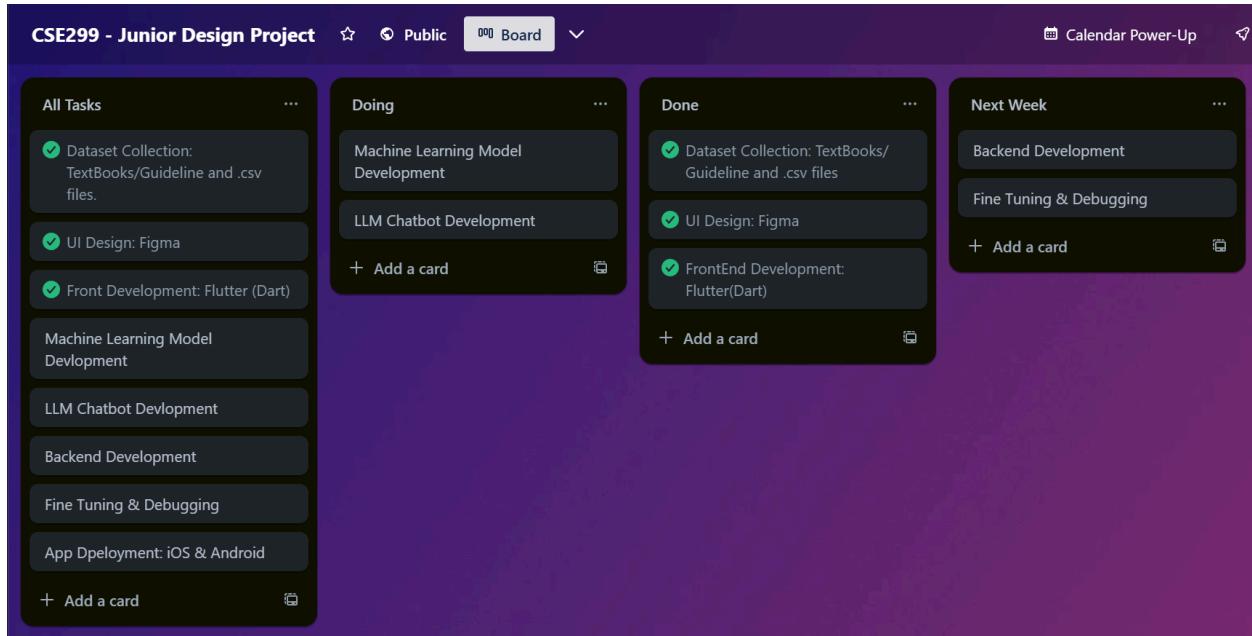


Week-4: Summary Table	
<b>1. Machine Learning Part: Preprocessing</b>	<ul style="list-style-type: none"> <li>• Data Loading</li> <li>• Data Cleaning</li> <li>• Outliers Handling</li> <li>• Categorical Data Handling</li> <li>• Categorical Label Encoding</li> <li>• Visualization &amp; Dataset Insights</li> <li>• Feature Engineering; Correlation Matrix</li> <li>• Data Scaling: Standard Scalar &amp; MinMax Scalar</li> <li>• Train-Test Split</li> </ul>
<b>2. LLM Chatbot</b>	<ul style="list-style-type: none"> <li>• Analyzed Different LLM Models</li> <li>• Analyzed Different Embedding Models</li> <li>• Analyzed Different Chunking Models</li> <li>• Made Comparison Between Models</li> <li>• Agentic Handling with CrewAI</li> </ul>

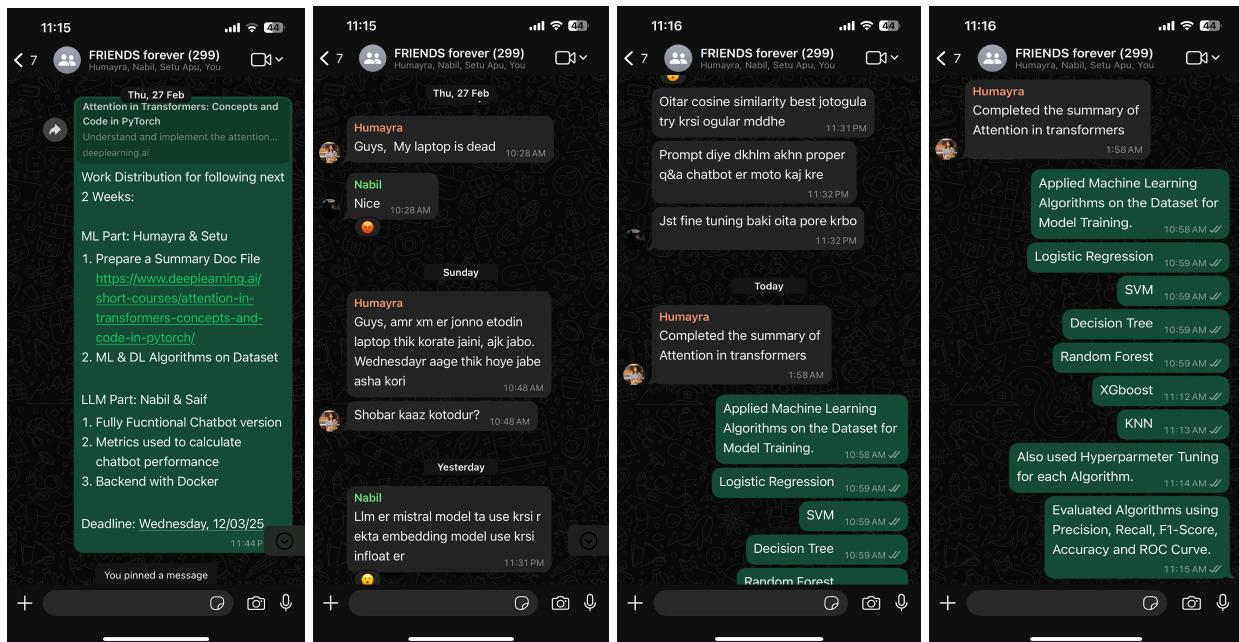
## Week-5: Wednesday, 12 March, 2025

Group Member's Info.	Assigned Tasks	Completed Tasks this Week	Next Week Tasks
Saif Mohammed 2121913042	1. Try Different types of Machine Learning algorithms on the Dataset. Figure out the best suitable algorithm. <a href="https://www.youtube.com/playlist?list=PLgQfWviG4DW9fYitD4aVK8nR3Wzf5tfLy">https://www.youtube.com/playlist?list=PLgQfWviG4DW9fYitD4aVK8nR3Wzf5tfLy</a>	1. A working version of the Diabetes chatbot that are widely used.  2. Metrics used to calculate chatbot performance	1. LLM Q&A chatbot finetuning.  2. Backend implementation API call (LLM RAG Chatbot Model).  3. Backend implementation API call (ML Model).  4. ML Model algorithm improvement.
Humayra Rahman Nipa 2121128042	1. A Summary Documentation on <a href="#">Attention in Transformers: Concepts and Code in PyTorch - DeepLearning.AI</a>	3. Try Different types of Machine Learning algorithms on the Dataset. Figure out the best suitable algorithm.	
Nazibul Islam Nabil 2222456642	1. Prototyping RAG Based LLM Chatbot. Question answering <a href="#">Fresh And Updated Langchain Series- Understanding Langchain Ecosystem</a>	4. A Summary Documentation on <a href="#">Attention in Transformers: Concepts and Code in PyTorch - DeepLearning.AI</a>	
Umme Suraia Haque Setu 2031278642	1. A Summary Documentation on <a href="#">Attention in Transformers: Concepts and Code in PyTorch - DeepLearning.AI</a>		

## Trello Board Screenshot



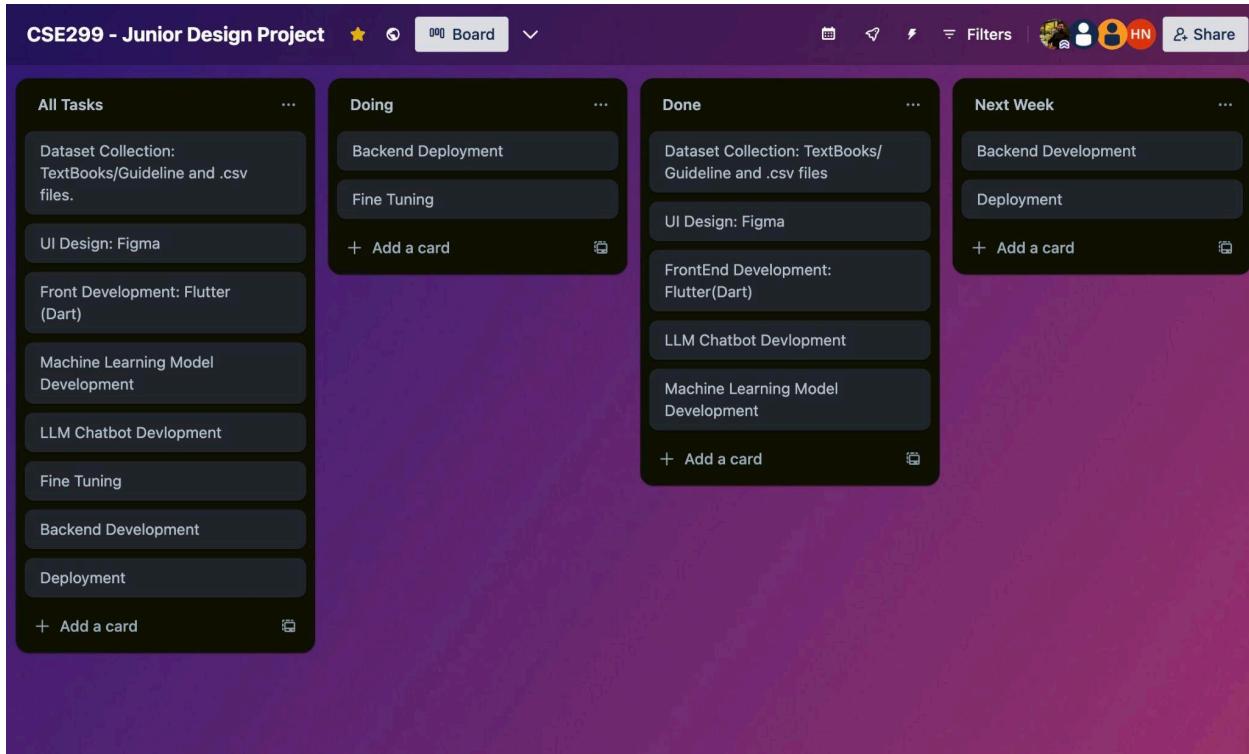
## WhatsApp Group Discussion Screenshot:



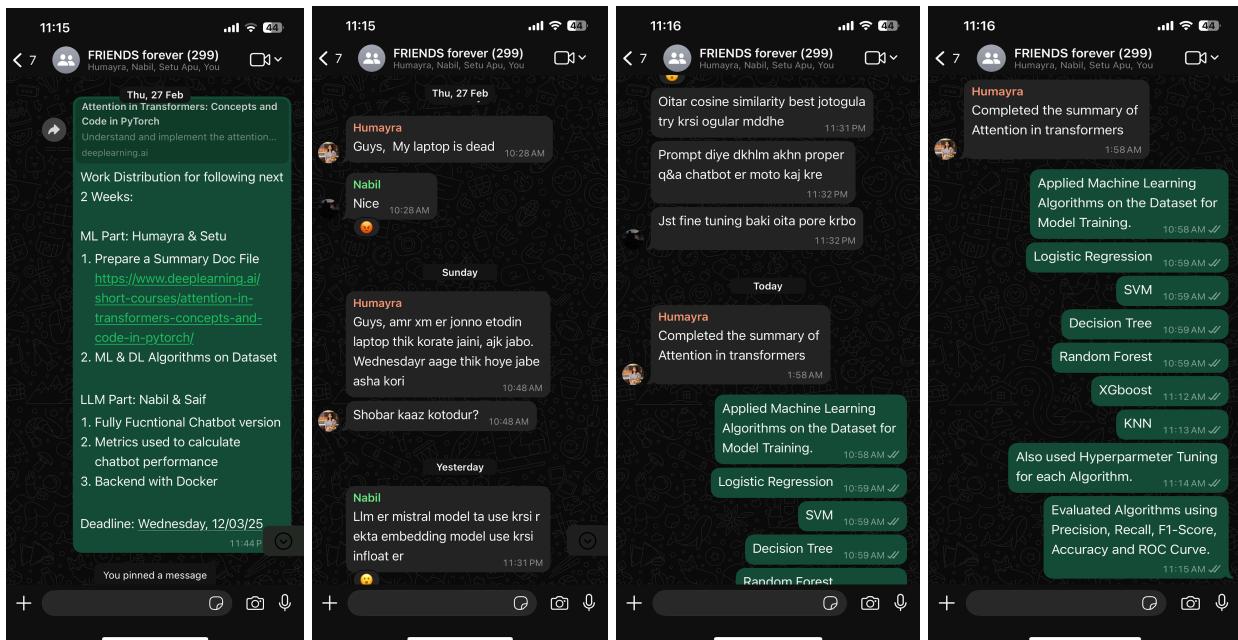
## Week-5: Wednesday, 9 April, 2025

Group Member's Info.	Assigned Tasks	Completed Tasks this Week	Next Week Tasks
Saif Mohammed 2121913042	<ol style="list-style-type: none"> <li>1. Backend Implementation with MVVM Structure Flask (Python Framework)</li> <li>2. Try Different types of Machine Learning algorithms on the Dataset.</li> <li>3. Prepare the ML Model.</li> <li>4. Flutter with Flask Implementation <a href="https://youtu.be/CWvI0U2Y3Ik?si=nXYLuap4kniWhXD0">https://youtu.be/CWvI0U2Y3Ik?si=nXYLuap4kniWhXD0</a></li> <li>5. MVVM Architecture Documentation: <a href="https://docs.flutter.dev/app-architecture/concepts">https://docs.flutter.dev/app-architecture/concepts</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Backend Implementation with MVVM Architecture with Flask.</li> <li>2. Metrics used to calculate chatbot performance.</li> <li>5. ML Model Preparation.</li> <li>6. Fine Tune with Q&amp;A Chatbot Model.</li> <li>7. A Summary Documentation on RAG.</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete backend and frontend Connection.</li> <li>2. Deployment with Docker.</li> </ol>
Humayra Rahman Nipa 2121128042	<ol style="list-style-type: none"> <li>2. A Summary Documentation on Retrieval Augmented Generation (RAG)</li> <li>3. Paper Link: <a href="https://arxiv.org/pdf/2005.11401">https://arxiv.org/pdf/2005.11401</a></li> <li>4. Explanation: <a href="https://youtu.be/dzChvuZl6D4?si=OEk13JXXdzUXLBUM">https://youtu.be/dzChvuZl6D4?si=OEk13JXXdzUXLBUM</a></li> </ol>		
Nazibul Islam Nabil 2222456642	<ol style="list-style-type: none"> <li>1. Perform Fine-Tuning in RAG based LLM Q&amp;A Chatbot. <a href="https://youtu.be/0kkEknQQQz0?si=a446ifiwTdbloQiB">https://youtu.be/0kkEknQQQz0?si=a446ifiwTdbloQiB</a></li> </ol>		
Umme Suraia Haque Setu 2031278642	<ol style="list-style-type: none"> <li>2. A Summary Documentation on Retrieval Augmented Generation (RAG)</li> <li>3. Paper Link: <a href="https://arxiv.org/pdf/2005.11401">https://arxiv.org/pdf/2005.11401</a></li> <li>4. Explanation: <a href="https://youtu.be/dzChvuZl6D4?si=OEk13JXXdzUXLBUM">https://youtu.be/dzChvuZl6D4?si=OEk13JXXdzUXLBUM</a></li> </ol>		

## Trello Screenshot:



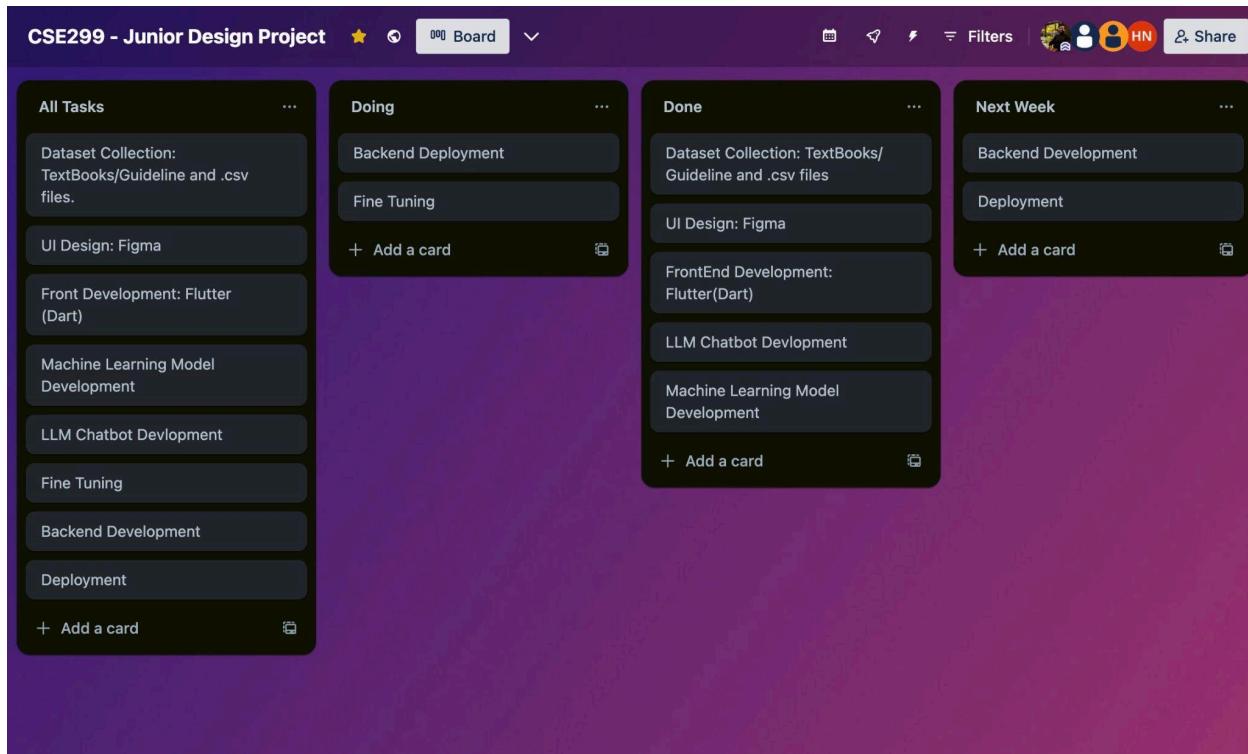
## Whats App Conversation:



## Week-6: Wednesday, 21 , 2025

Group Member's Info.	Assigned Tasks	Completed Tasks this Week	Next Week Tasks
Saif Mohammed 2121913042	<p>1. Backend Implementation with MVVM Architecture.</p> <ul style="list-style-type: none"> <li>• <a href="#">MVVM Architecture Simplified - Flutter Recommendation</a></li> <li>• <a href="#">How to connect AI Model with Flutter Using Flask - بالعربي</a></li> <li>• <a href="#">Complete Salary Prediction App Project: Flask &amp; Flutter Integration #salaryprediction#flutter#flask</a></li> </ul>	<p>1. RAG LLM Evaluation</p> <p>2. Backend Emplementation with MVVM Architecture</p> <p>3, ML and Chatbot API calling</p> <p>4. Authentication</p> <p>5. MongoDB</p>	Final Demostration
Humayra Rahman Nipa 2121128042	1. RAG LLM Chatbot Evaluation		
Nazibul Islam Nabil 2222456642	<p>1. RAG LLM Chatbot Evaluation</p> <ul style="list-style-type: none"> <li>• <a href="#">RAG Evaluation   DeepEval - The Open-Source LLM Evaluation Framework</a></li> <li>• <a href="#">Evaluate a simple RAG system</a></li> </ul>		
Umme Suraia Haque Setu 2031278642	1. RAG LLM Chatbot Evaluation		

## Trello Screenshot:



## WhatsApp Conversation:

