Minutes of Project meetings: Machine Learning Algorithm Visualizer

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Meeting#1

Date: 16/03/2025
Time: 10:00pm
Venue: Library
Attendees: Darsh, Tanisha, Priyanshu, Chanchal, Bhargav, Arun

Discussion points: Regarding overall Project Pipeline and Core implementation
Broad project idea, who will do what :
Front-end of the project : Priyanshu , Chanchal , Tanisha
Back-end of the project : Darsh , Bhargav
Overall Pipeline Integration : Arun
Documentation and task tracking : Tanisha

Action item:
Priyanshu(B23CS1099), Chanchal(B23CS1011) and Tanisha(B23CM1042) will be responsible for creating interactive web page. Darsh(B23CM1054) and Bhargav(B23CS1008) will be responsible for implementing selected algorithms. Arun(B23CS1005) will be responsible for verifying and ensuring the working and integration of algorithms.Tanisha(B23CM1042) will be documenting and keeping updates on current progress.

Written by: Tanisha(B23CM1042)

Meeting#2

Date: 22/03/2025
Time: 10.30 pm
Venue: Library
Attendees: Tanisha, Darsh, Bhargav, Priyanshu, Chanchal, Arun

Discussion points: Have completed the working of the Linear Regression Algorithm.

Review of previous meetings and new tasks: After discussing the overall flow and working of the project, we distributed the work such that the algorithm of the Linear regression and the resulting graphs and their codes are being written by Bhargav and Darsh. Later the frontend part of the website which includes Interactive Data input in the form of graph is done by Tanisha, The data points table, the learning rate and the change in iterations are being done by Chanchal and the resulted graph,its equation,the coefficients,intercept, R2 Score, MSE are being done by Priyanshu. The Development of the backend API and the Frontend and Backend Integration of the Algorithm with the website is being done by Arun.

Action item:
Now we all have completed our tasks about the Linear regression and the algorithm in the website works properly. Now similarly the different tasks of the different parts of the website are being distributed among us for the Algorithm KNN.

Written by: Tanisha

Meeting#3

Date: 29/03/2025
Time: 10:30pm
Venue: Library
Attendees: Darsh, Tanisha, Priyanshu, Chanchal, Bhargav, Arun

Discussion points: Have completed the working of the KNN Algorithm

Review of previous meetings and new tasks:
After completing the Linear Regression Algorithm, we have again distributed the work for the KNN algorithm such as the algorithm and the resulting graph are being coded by Darsh and Bhargav while the Frontend part of the webpage are being done by Priyanshu, Tanisha and Chanchal. The Development of the backend API and the Frontend and Backend Integration of the Algorithm with the website is being done by Arun.

Action item:
Now we all have completed our tasks about the KNN and the algorithm in the website works properly. Now similarly the different tasks of the different parts of the website are being distributed among us for the PCA and K-Means.

Written by: Tanisha

Meeting #4

Date: 05/04/2025
Time: 10:30 PM
Venue: Library
Attendees: Darsh, Priyanshu, Bhargav, Tanisha, Chanchal, Arun

Discussion Points:

We have completed the KMeans Clustering and the visualization of PCA is also implemented . Priyanshu has worked on improving PCA visualization using new datasets and has also worked in optimizing Polynomial Regression performance metrics alongside Arun's dashboard updates. Bhargav contributed to transitioning effects in KMeans clustering visualization as well as started the work on Decision Tree implementation with Darsh's API development support. Chanchal polished UI/UX design elements for PCA visualization while collaborating with Tanisha on Polynomial Regression testing. Now we have started to work on SVM and Decision Tree.

Action Items:

- Completed KMeans clustering implementation with smooth transitions and animations.
- Finalized PCA visualization improvements using new datasets.
- Completed Polynomial Regression implementation with frontend adjustments.
- Validated integration of KMeans, PCA, and Polynomial Regression outputs with sample datasets.
- Debugged API endpoints for KMeans clustering and PCA execution.

Written by: Tanisha

Meeting #5
Date: 10/04/2025
Time: 10:30 PM
Venue: Library
Attendees: Darsh, Priyanshu, Bhargav, Tanisha, Chanchal, Arun

Discussion Points:

The team has completed working on the implementations of the Decision tree and SVM and now have started our work on DBSCAN clustering and Artificial Neural Network(ANN). Bhargav and Priyanshu worked in implementing the ANN features and also worked on the animations for DBSCAN clustering transitions. Darsh completed the API development for the Decision Tree and started debugging the SVM kernel with Arun and also worked on the performance metrics validation. Tanisha assisted in frontend adjustments for ANN alongside Chanchal refining the UI of the website.

Action Items:

- Completed Decision Tree implementation with API development and backend adjustments.
- Finalized SVM kernel calculations with performance metrics validation.
- Enhanced frontend design elements for Decision Tree visualization and tested SVM outputs with sample datasets.
- Assisted in debugging SVM execution endpoints while completing documentation updates.

Written by: Tanisha

Meeting #6

Date: 13/04/2025
Time: 11:00 PM
Venue: Library
Attendees: Darsh, Priyanshu, Bhargav, Tanisha, Chanchal, Arun

Discussion Points:

The team completed DBSCAN clustering implementation along with ANN features and began preparing final deliverables for submission along with website deployment tasks underway. Priyanshu optimized ANN convergence techniques while collaborating with Bhargav on backend adjustments for ANN functionality testing. Darsh prepared a demo video showcasing all implemented algorithms alongside debugging DBSCAN clustering execution endpoints. Tanisha finalized documentation updates while assisting Chanchal in polishing UI elements before deployment.

Action Items:

- Completed DBSCAN clustering implementation with animations and transitions.
- Finalized ANN functionality testing with backend adjustments and convergence optimization techniques.
- Recorded the demo video showcasing all implemented algorithms.
- Uploaded finalized documentation updates into the repository.
- Polished UI elements for deployment readiness (Chanchal).
- Validated dataset accuracy across all models as part of final checks.

Written by: Tanisha

Meeting #7

Date: 14/04/2025
Time: 11:00 PM
Venue: Library
Attendees: Darsh, Priyanshu, Bhargav, Tanisha, Chanchal, Arun

Discussion Points:

We have met to complete all the remaining tasks for the submission of the project. We completed the documentation, made the required videos and then checked whether everything was completed and perfect as per the requirement of the submission.

Action Items:

- First we completed working on the Report and Spotlight video which was made and presented by all the members.
- Later we worked on completing the project page with all the updated information required.
- The last MoM of today's meet is being documented and all the MoMs are being arranged in a single document for the submission.
- Completed the demo Video which includes how our website works for a user to understand its working.

Written by: Tanisha