**Project Milestone 1**

**Independent Project Plan:**

**Week 1: Milestone 1**

* **Task:** Craft rough project plan
* **Task:** Will be independently working on the project
* **Task:** Create MS Teams folder for project work
* **Objective:** Establish a high-level overview of the project timeline, identifying key milestones and deadlines. Organize the repository to store all future submissions and project materials.

**Week 2: Milestone 2 / Peer Review**

* **Task:** Explore the Framingham heart disease dataset
* **Task:** Define the project goal and problem statement
* **Task:** Develop the project proposal, including an introduction, problem statement, and data source justification
* **Task:** Identify the models and evaluation metrics to be used
* **Task:** Assess risks and ethical concerns
* **Task:** Begin peer review process
* **Objective:** Familiarize myself with the dataset, clarify the business problem, and outline the project scope. Draft a proposal that lays the foundation for the final project paper.

**Week 3: Work on Milestone 3**

* **Task:** Start preliminary data analysis
* **Task:** Clean and preprocess data
* **Task:** Begin exploring the data with visualizations
* **Task:** Submit milestone peer review
* **Objective:** Begin analyzing the dataset, focusing on data cleaning, handling missing values, and initial exploratory data analysis (EDA). Visualize key patterns and relationships in the data.

**Week 4: Peer Review**

* **Task:** Find a peer for project review (thinking the McGregor / Lemons team)
* **Task:** Complete Individual Peer Review Form
* **Objective:** Collaborate with a peer to review my progress and receive constructive feedback to refine my analysis.

**Week 5: Work on Milestone 3 (continued)**

* **Task:** Continue and finalize preliminary data analysis
* **Task:** Draft initial findings and insights
* **Objective:** Complete the EDA and document the insights gained, to form the foundation of the modeling phase. Evaluate whether the current data and models will help answer the project’s questions.

**Week 6: Milestone 3 Submission**

* **Task:** Submit Milestone 3 in Blackboard and Teams folder
* **Objective:** Submit updated data exploration and analysis, addressing any changes or adjustments needed to the project based on the findings.

**Week 7: Work on Milestone 4**

* **Task:** Start building predictive models
* **Task:** Prepare and preprocess data for modeling
* **Task:** Submit milestone peer review
* **Objective:** Begin developing and training machine learning models to predict the 10-year risk of CHD, while continuing to refine the dataset.

**Week 8: Peer Review**

* **Task:** Continue collaboration with peers through reviews
* **Objective:** Incorporate feedback to fine-tune my models to enhance their accuracy and reliability.

**Week 9: Milestone 4**

* **Task:** Finalize and evaluate predictive models
* **Task:** Interpret the results and begin drafting the conclusion
* **Task:** Analyze ethical implications of the project
* **Objective:** Complete model evaluation, including metrics such as accuracy, precision, recall, and AUC. Start organizing results for presentation and address the ethical considerations.

**Week 10: Peer Review**

* **Task:** Review peer projects and provide feedback
* **Task:** Submit milestone peer review or group evaluation
* **Objective:** Engage in mutual feedback sessions to ensure thorough and rigorous analysis. Reflect on any ethical concerns.

**Week 11: Work on Milestone 5**

* **Task:** Finalize project paper, including Introduction, Methods/Results, Conclusion, and References
* **Task:** Begin preparing the final presentation
* **Objective:** Synthesize all project components, ensuring the final paper and presentation are well-organized and comprehensive. Address any remaining ethical considerations.

**Week 12: Milestone 5 / Peer Review**

* **Task:** Submit final project paper, including all required sections
* **Task:** Submit final presentation with slides and audio/video summary (10-15 min)
* **Task:** Complete final peer review
* **Objective:** Submit all final deliverables, ensuring that the project is complete, well-documented, and peer reviewed. Prepare a presentation that clearly communicates the findings and any recommendations.

**Schedule:**

| **Week** | **Milestone** | **Task** | **Mon** | **Tue** | **Wed** | **Thu** | **Fri** | **Sat** | **Sun** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | Craft rough project plan | x | x | x | x | x | x |  |
| 1 | 1 | Create MS Teams folder | x | x | x | x | x | x |  |
| 1 | 1 | Project is individual | x | x | x | x | x | x |  |
| 2 | 2 | Explore dataset | x | x | x | x | x | x |  |
| 2 | 2 | Define project goal and problem statement | x | x | x | x | x | x |  |
| 2 | 2 | Develop project proposal | x | x | x | x | x | x |  |
| 2 | 2 | Peer Review | x | x | x | x | x | x |  |
| 3 |  | Preliminary data analysis | x | x | x | x | x | x |  |
| 3 |  | Submit Milestone 3 peer review or group evaluation | x | x | x | x | x | x |  |
| 4 |  | Peer Review | x | x | x | x | x | x |  |
| 5 | 3 | Finalize preliminary analysis | x | x | x | x | x | x |  |
| 6 | 3 | Submit Milestone 3 | x | x | x | x | x | x |  |
| 7 |  | Start building models | x | x | x | x | x | x |  |
| 7 |  | Submit Milestone 4 peer review or group evaluation | x | x | x | x | x | x |  |
| 8 |  | Peer Review | x | x | x | x | x | x |  |
| 9 | 4 | Finalize models | x | x | x | x | x | x |  |
| 10 |  | Peer Review | x | x | x | x | x | x |  |
| 11 |  | Finalize project paper | x | x | x | x | x | x |  |
| 12 | 5 | Submit final presentation and paper | x | x | x | x | x | x |  |
| 12 |  | Peer Review |  | x | x |  |  |  |  |