



CMPT 3830: Machine Learning Work

Integrated Learning-1

Team Charter

1. Team Name:

ML Champs

"ML Champs" represents **top-performing professionals, teams, or organization** in the domain of machine learning.

2. Team Member details:

Inderjeet Singh (Scrum Master, EDA Specialist, Machine learning specialist)

Ina28@norquest.ca

Aditya Mehta (Team leader, EDA specialist, data visualization lead)

Amehta19@norquest.ca

Harvir Kaur (Data engineering and feature engineering lead)

Hlnu44@norquest.ca

Ishmeet singh (Data cleaning and Quality assurance specialist)

Isingh814@norquest.ca

3. Team Purpose:

Our purpose is to leverage advance data analytics and machine learning technique to address real-world business challenges. By solving problem statement #6: **vehicle mileage group classification**, we aim to create a robust multi-class classification model that categorizes vehicles into mileage bands (low, medium, high). This will empower Go Auto dealership to effectively market vehicles according to the mileage preferences of diverse customer segments.

Beyond delivering high-quality solutions, our team aspires to produce work that meets **publishable standards**, contributes to **community service learning** at NorQuest College, and provides team members with valuable **hands-on experience** in tackling real-life data projects.



4. Team Goals:

- Long-term Goals

1. Develop a scalable and accurate **multi-class classification** model to support Go Auto's marketing strategies.
2. Produce insights and methodologies that are of high enough quality to be **published as an article** in relevant academic or professional forums.
3. Contribute to **community service learning** at Norquest college by setting an example of **impactful and practical data science applications**
4. Strengthen our expertise in working on complex, **real-life data** projects to prepare for **future professional opportunities**.

- Short-term Goals:

1. Preprocess and clean the dataset to ensure it is ready for analysis.
2. Perform **exploratory data analysis (EDA)** to identify patterns and key features.
3. **Engineering features** that improve the performance of the classification model.
4. Build, test, and refine a multi-class classification model for vehicle mileage group prediction.
5. **Develop visualization and reports** to clearly communicate findings to stakeholders.
6. Collaborate effectively as a team, meeting deadlines and maintaining transparency through tools like Mondays, iCloud, and google drive.

5. Team Norms and Expectations:

- Communication Protocols:

Our team follows a structured communication framework to ensure seamless collaboration and transparency throughout the project lifecycle. Below is the communication plan we will implement to keep all stakeholders informed and aligned:

- **Daily status updates:**
Team members will share brief, asynchronous updates via **Mondays.com** to provide visibility into ongoing task, progress, and blockers.
- **Weekly progress meetings:**
We will conduct Biweekly virtual and in-person meetings at **Microsoft teams** and **college library** respected in order to review key milestones, address any challenges, and discuss next steps. Meeting agendas will be shared in advance via e-mails to ensure efficient use of time.
- **Project documentation and deliverables:**



All project-related documentation, reports, and deliverables will be stored in a centralized Google drive and iCloud repository, provide stakeholders with secure, real-time access to project materials.

- Meeting Frequency:

- **weekly progress meeting** to ensure continuous alignment and timely resolution of any issues and to track the progress.
- Additional meetings will be scheduled as required based on project needs.

- Decision-making Process:

Our decision-making process is designed to ensure efficiency, transparency, and accountability throughout the project. The process follows a structured approach to achieve consensus while maintaining agility in critical situations.

1. Collaborative input:

- Team members contribute their expertise to provide informed recommendations for decisions.
- Stakeholders' (Client) feedback will be incorporated to ensure alignment with business objectives.

2. Consensus-based Approach:

- Whenever possible, decisions will be made through team consensus to ensure collective ownership of outcomes.
- For routine matters, decision will be made within the team to maintain agility.

3. Escalation for critical decisions:

- For major project milestones or strategic decisions, input from all stakeholders will be gathered.
- If a consensus cannot be reached, the project lead will make the final decision after consulting relevant parties.

4. Documentation:

- All key decisions will be documented and shared in the project repository on google drive and iCloud for reference and accountability.
- Meeting minutes will capture decision points to ensure clarity and transparency.

- Conflict Resolution:

We recognize that conflicts may arise during the project due to differing opinions, priorities, or expectations. Our team is committed to addressing conflicts proactively and constructively to ensure project continuity and maintain a positive working environment.

1. Open communication:



- Team members are encouraged to address conflicts as soon as they arise through open and respectful communications.
- A safe space will be provided during team meetings to discuss concerns without fear of judgement.

2. **Collaborative Problem-solving:**

- Conflicts will be approached with a problem-solving mindset, focusing on solutions that align with project goals.

6. Roles and Responsibilities:

To ensure the effectiveness execution of our data analysis project, each team member has been assigned specific roles and responsibilities that align with their expertise.

Inderjeet Singh

Roles: Scrum master, Exploratory Data Analysis (EDA) specialist, and Machine learning Specialist.

Responsibilities:

- Facilitate Agile practices, including sprint planning, daily stand-ups, and retrospectives.
- Act as the main liaison with stakeholders, providing updates and gathering feedback.
- Support the exploratory data analysis (EDA) process to identify patterns, trends, and anomalies.
- Develop, test, and optimize machine learning models tailored to project objectives.
- Perform feature engineering to enhance model performance and predictive accuracy.

Aditya Mehta

Roles: Project leader, Exploratory data Analysis (EDA) specialist, Data visualization lead

Responsibilities:

- Oversee the project's overall progress and ensure alignment with goals and timeliness.
- Address obstacles and ensure smooth progress through collaboration and team support.
- Lead the Data Exploratory analysis (EDA) process to identify actionable insights.
- Lead the design and creation of visualizations, dashboards, and reports to present insights effectively.



- Collaborate with team members to ensure visualization align with project and business objective.

Harvir Kaur

Roles: Data engineering and feature engineering lead

Responsibilities:

- Design and maintain scalable data pipelines for seamless processing and integration.
- Perform feature engineering to enhance the dataset's predictive power.
- Optimize database performance for real-time and scalable data analysis.
- Provide technical support for data access and integration needs within the team.

Ishmeet Singh

Roles: Data cleaning and quality Assurance specialist

Responsibilities:

- Oversee the cleaning and preprocessing of raw data to ensure accuracy and consistency.
- Identify and resolve issues such as missing values, duplicates, and inconsistencies.
- Validate data quality and maintain documentation for transparency and reproducibility.
- Ensure compliance with data security and privacy regulations.

7. Communication Plan:

Effective communication is critical to success of our project. To ensure clarity, transparency, and collaboration, the following communication protocols and tools will be utilized:

- Tools Used for Communication:

Primary communication tools:

- Microsoft teams for meetings and real-time discussions.
- Email for formal communication and sharing detailed updates.

- File Sharing Method:

Collaborative platforms:

- Google drive and iCloud for secure file storage and sharing.
- Mondays for task management and tracking project progress.



- Meeting Schedule:

Weekly meetings:

- Regular team meetings twice a week will be held every Tuesday and Friday to discuss progress, address challenges, and plan next steps.

- Emergency meeting protocol:

In case of urgent issues, an emergency meeting will be called through Microsoft teams. Team members will be notified at least 2 hours in advance to agree on a suitable time.

8. Accountability:

To ensure the successful competition of our project, we have established a system for tracking progress and holding team members accountable for their tasks.

- How progress will be tracked:

- **Reports**
Team members will provide progress updates every 72 hours, detailing completed work, ongoing tasks, and any challenges encountered.
- **Mondays**
Task management and progress tracking will be conducted through Mondays, where task will be assigned, monitored, and updated in real-time.
- **Team meetings**
Weekly meetings will serve as checkpoints to review milestones and address any issue.

- How will team members be held accountable for tasks?

Include how members notify others if they cannot meet deadlines.

- **Consequences for missed deadlines**
 - Task that are delayed beyond 56 hours without prior communication will be escalated to the project leader for resolution.
- **Task Assignments**
 - Task will be assigned clearly in Mondays with specific deadlines, each team member is responsible for updating their task status regularly.
- **Deadline Management**
 - Team members who are unable to meet a deadline must notify the scrum master and other team members at least 36 hours in advance.



- If a team member cannot complete a task, they are required to collaborate with the scrum master to reassign the task or request additional support from another team member.

9. Signature of Commitment:

Name of the Member	Signature	Date
Inderjeet Singh	Inderjeet Singh	Jan 16, 2025
Aditya Mehta	Aditya Mehra	Jan 16, 2025
Harvir Kaur	Harvir Kaur	Jan 16, 2025
Ishmeet Singh	Ishmeet Singh	Jan 16, 2025