Group Project Reflection: Machine Learning Business Analysis

The role I played as the team leader for our group project on Airbnb business analytics was a deeply formative experience that strengthened my technical, organisational, and interpersonal competencies. The project required the application of machine learning techniques specifically regression and clustering to extract actionable insights from Airbnb datasets. My primary responsibility involved coordinating the group's workflow and ensuring the timely completion of milestones. I organised team meetings, established communication structures via WhatsApp and Zoom, and managed deadlines so that each member could complete their assigned tasks sequentially. Given the team's geographic diversity and differing time zones, asynchronous communication through WhatsApp proved to be the most efficient approach, providing a clear record of discussions, decisions, and progress updates.

I was also responsible for submitting the team contract and ensuring that it was developed collaboratively. Each member contributed their perspectives on working styles, expectations, and accountability measures, which fostered mutual respect and a sense of shared ownership. This participatory approach ensured that the team's standards were collectively agreed upon rather than imposed. In addition to my leadership responsibilities, I wrote the introduction, compiled and edited all sections of the report, and finalised the submission to ensure coherence and academic quality. Task allocation was central to our success; I distributed roles based on individual strengths, assigning leads for exploratory data analysis (EDA), visualisation, regression, clustering, and documentation.

To promote transparency and efficiency, the team utilised **GitHub** for code sharing and version control. This allowed all members to review progress, track updates, and collaboratively resolve technical issues. Additionally, **Google Drive** was used for real-time editing of the written report, ensuring accountability, visibility of revisions, and the avoidance of duplication. These tools enabled seamless collaboration and strengthened the group's ability to coordinate effectively across regions.

From a technical perspective, the project enhanced my understanding of regression and clustering models, particularly in evaluating model performance and interpreting outcomes within a business context. I developed confidence in data cleaning, feature selection, and using platforms such as Google Cloud for analysis. Moreover, this experience deepened my appreciation for the balance between interpretability and predictive accuracy when applying machine learning algorithms to real-world data.

The project also contributed significantly to my professional growth. Leading a geographically dispersed team improved my communication, time management, and people-management skills. I learned to adapt to different working styles, mediate challenges, and motivate peers to maintain consistent engagement. The feedback from our tutor acknowledged our clear research questions, sound methodology, and strong visualisation, while suggesting deeper critical reflection and clearer quantification of business impact. This reinforced the importance of linking technical results to tangible outcomes.

Peer evaluations highlighted the effectiveness of transparent leadership and equal participation, validating the team's collaborative culture. Overall, this project provided an invaluable opportunity to integrate theory with practice while cultivating leadership, technical, and analytical expertise. It also reinforced my belief that data-driven innovation thrives when supported by ethical collaboration, accountability, and clear communication principles that will continue to guide my professional development within healthcare analytics and AI-driven research.