“Airbnb Business Analysis Using Classical Machine Learning”

**UAE Engineers Team – Weekly Meeting Notes**

# Week 1 – Project Kickoff & Team Contract

## Date: 03 May 2025

* All members reviewed and signed the Team Contract and confirmed roles:
  + Majed Al Zaabi – Project Lead
  + Rayyan Al Naqbi – Data Specialist
  + All Team – Model Developer
  + Shaikha Al harthi – Documentation Lead
  + Mohammed Al Zaabi – Report Lead
* Offered project title: Airbnb Business Analysis Using Classical Machine Learning.
* Communication was set up through a WhatsApp group and weekly meetings were scheduled on Fridays.
* Code was done in Jupyter Notebook and documentation in Word.

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| **Name** | **Attendance status** |
| Majed Al Zaabi | Attended |
| Rayyan Al Naqbi | Attended |
| Shaikha Al harthi | Attended |
| Mohammed Al Zaabi | Attended |

* Rayyan Al Naqbi presented the dataset for Airbnb including pricing, locations, reviews and others.
* The team held a discussion on application of supervised and unsupervised learning techniques.
* Mohammed and Shaikha started writing the report's background and introduction.
* Majed and the team started testing preliminary models like Linear Regression and KNN.
* Majed assessed the project timeline and confirmed deadlines for individual submissions.

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* Data imbalance limited performance of linear regression, a problem incurred by Majed's first model.
* The team focused on enhancing the preprocessing stage and using advanced models like Decision Trees.
* Rayyan completed the tasks of handling missing values as well as data normalization and encoding for categorical variables.
* The team started to prepare visualizations for both presentation and analysis.
* Shaikha integrated the primary insights into the report draft.

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* Rayyan worked with different models: Decision Tree, Random Forest, and KNN.
* Random Forest produced the best performance and offered the most stable predictions.
* Peer review of the code was done, and updates were made through collaborative version control.
* Majed monitored the results of competing models and advocated for extra validation tests.
* Mohammed revised the results section and added relevant graphs and tables.

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* Shaikha and Mohammed drafted the report's most significant sections which included methodology, results and discussion.
* Visualizations were finalized by Rayyan with additional statistical analyses included such as rental prices segmented by area and review score.
* Majed confirmed that team objectives were being met and progress tracked.
* Work commenced on the PowerPoint presentation with the narrative sections assigned.

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* The entire team worked on completing the project report and editing all sections of it.
* The final checks on the code were performed by Rayyan and Majed to ensure all outputs were in sync with the reported results.
* Mohammed structured the report according to the formatting requirements on citation and academic submissions.
* The whole team practiced for the final presentation focusing on the provided feedback.
* All materials including report and code were submitted before the due date.

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