**Housing Price Prediction Project - Meeting**

**Date:** February 23, 2025 **Phase:** Algorithm Comparison & Feature Engineering

**Key Points**

* Gradient Boosting models best performing
* Feature engineering crucial
* Begin research paper

**Discussion Summary**

XGBoost and LightGBM outperformed other methods. Neighborhood aggregations and temporal trends reduced error by 15-20%. Location features most important (35% error increase when removed). XGBoost offers good balance of performance and interpretability.

**Model Performance**

* XGBoost: Best performance among models tested
* LightGBM: Very competitive performance
* Random Forest: Good but not best performance
* Linear Methods: Significantly higher error rates

**Feature Engineering Impact**

* Neighborhood aggregations and temporal trends: 15-20% error reduction
* Removing location features: 35% error increase
* Removing property characteristics: 28% error increase

**Next Steps**

* Conduct comprehensive hyperparameter tuning
* Draft research paper introduction and methodology
* Explore model explainability techniques like SHAP
* Implement advanced feature engineering
* Prepare for EDA presentations