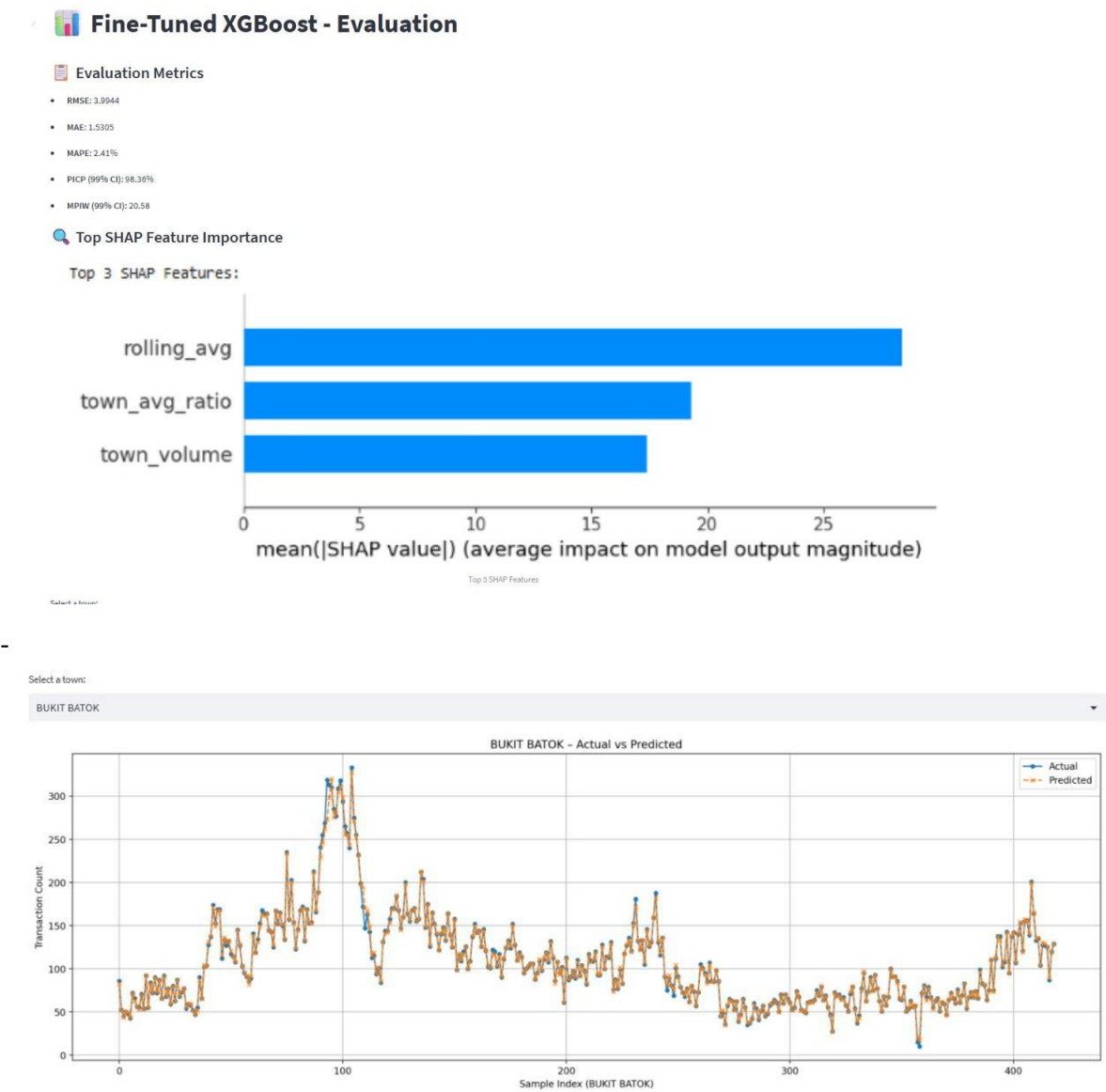
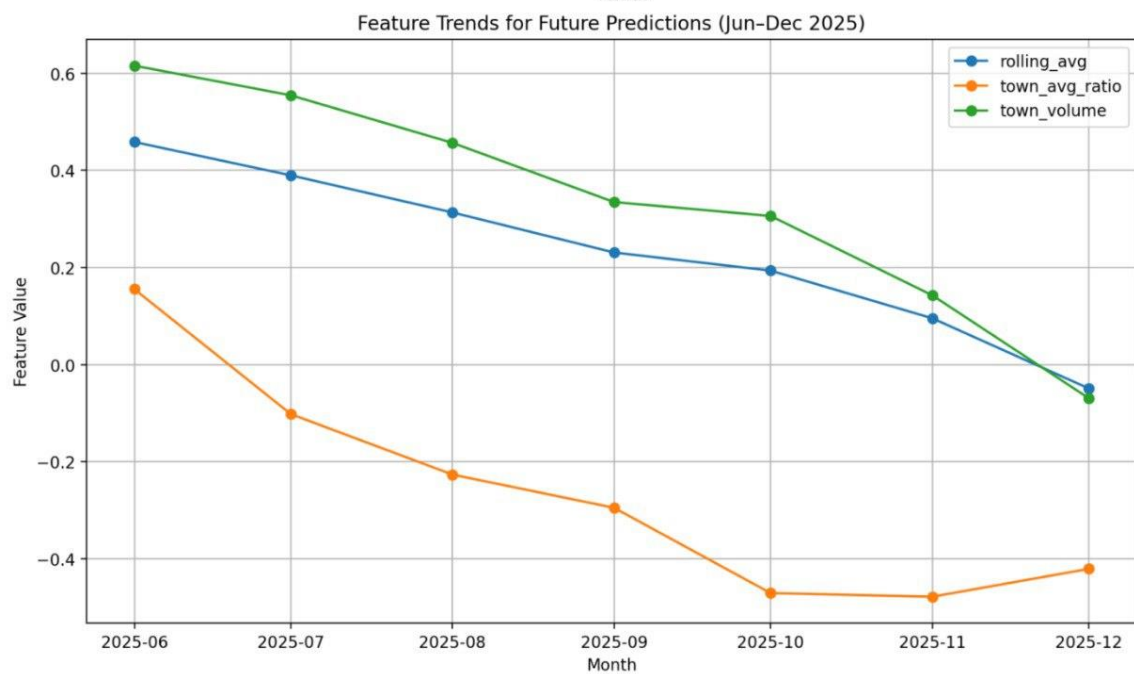
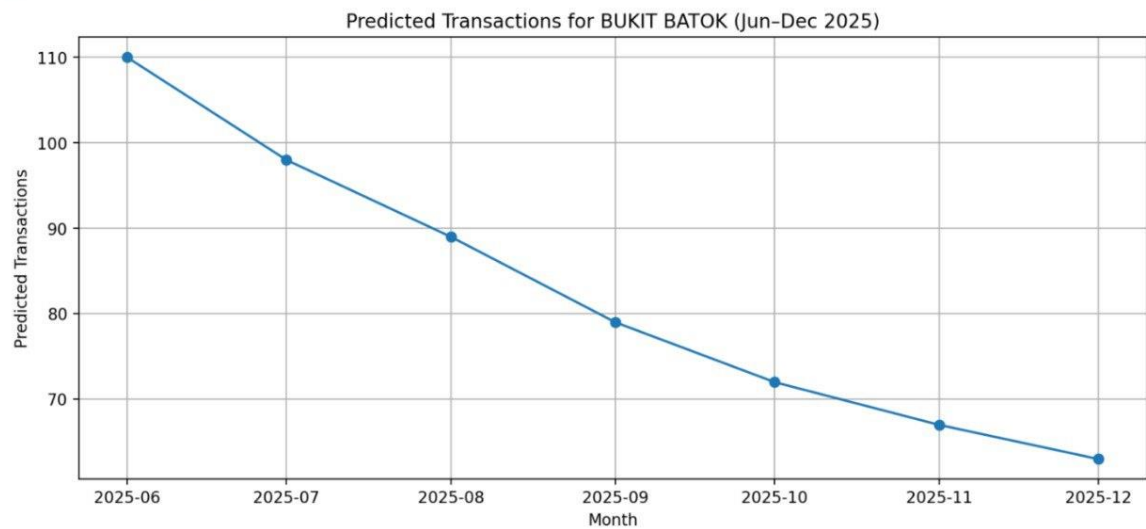


Meeting Minutes – 2 July 2025

Demand Forecasting



Future Predictions (June-Dec 2025)



- fine tuned model working on AWS ECS
- plot future predictions (June- Dec)
- plot feature graph to see how it affect future predictions

Feedback

- add more filters like months

Market Trend Analysis

- Tried to further improve model by using hyperparameter tuning (Randomized Search) → previously manually edited hyperparameters
- Found best parameters for model to be:

```
model = XGBRegressor(  
    n_estimators=1337,  
    learning_rate=0.0521,  
    max_depth=9,  
    subsample=0.6830,  
    colsample_bytree=0.9324,  
    gamma=0.0602,  
    reg_lambda=0.9637,  
    reg_alpha=0.4059,  
    random_state=42  
)
```

- Tried to further improve dataset and model accuracy using CleanLab (data-centric AI package that automatically finds and fixes errors in any ML dataset) → still WIP, not done yet

Cleanlab is a Python library that helps you clean and improve your dataset by:

- **Finding incorrect or messy labels** in your data (e.g. a dog image labeled as "cat").
 - **Estimating how confident your model is** about each label.
 - **Letting you filter or fix bad data** so your machine learning model becomes more accurate.
- Uploaded new image to AWS to check for any crashes (<http://54.254.121.48:8501/>)

The screenshot shows a web application titled "AOP Market Trend Analysis" with two tabs: "Dashboard" and "Predict Resale Price". The "Predict Resale Price" tab is active. The interface includes a sidebar on the left and a main content area on the right. The main content area has a title "Predict Resale Price" and a sub-header "Future Prediction Mode" with a red checkmark. Below this, there are several input fields for user selection: "Town" (ANG MO KIO), "Flat Type" (1 ROOM), "Storey Range" (01 TO 03), "Flat Model" (IMPROVED), "Floor Area (sqm)" (80), "Lease Commence Year" (2000), "Transaction Year" (2025), and "Transaction Month" (August). At the bottom of the form is a button labeled "Predict Price".

Rental Yield Prediction

Navigation

Select Page

Predict

Model Statistics

Model Status

LSTM model loaded and ready

About

This application predicts rental prices for properties in Singapore using an LSTM deep learning model trained on historical rental data.

Monthly Forecast Values

	Date	BUKIT BATOK - 3-ROOM	KALLANG/WHAMPOA - 3-ROOM	SEMBAWANG - 3-ROOM
3	2024-10	S\$2618.00	S\$2840.00	S\$2720.00
4	2024-11	S\$2680.00	S\$2826.00	S\$2750.00
5	2024-12	S\$2682.00	S\$2818.00	S\$2742.00
6	2025-01	S\$2720.00	S\$2916.00	S\$2752.00
7	2025-02	S\$2714.00	S\$2918.00	S\$2754.00
8	2025-03	S\$2712.00	S\$2932.00	S\$2756.00
9	2025-04	S\$2710.00	S\$2930.00	S\$2754.00
10	2025-05	S\$2716.00	S\$2912.00	S\$2756.00
11	2025-06	S\$2718.00	S\$2916.00	S\$2758.00
12	2025-07	S\$2718.00	S\$2912.00	S\$2754.00
13	2025-08	S\$2720.00	S\$2908.00	S\$2758.00

About this forecast

This forecast shows predicted rental prices for the selected properties over time (12 months before and after the current date). The LSTM model uses historical patterns to predict future rental trends and shows what the rental price likely was historically.

- The vertical dashed line represents the current month
- Past predictions show what the rental price likely was historically (gray area)
- Future predictions show expected rental price trends (blue area)
- The current month is highlighted in green
- You can compare up to 9 different town/flat type combinations

Navigation

Select Page

Predict

Model Statistics

Model Status

LSTM model loaded and ready

About

This application predicts rental prices for properties in Singapore using an LSTM deep learning model trained on historical rental data.

Rental Price Forecast (±12 Months)

Rental Price Forecast Over Time (LSTM Model)

Date	BUKIT BATOK - 3-ROOM	KALLANG/WHAMPOA - 3-ROOM	SEMBAWANG - 3-ROOM
Jul 2024	2670	2860	2750
Oct 2024	2670	2840	2750
Jan 2025	2720	2916	2752
Apr 2025	2714	2918	2754
Jul 2025	2712	2932	2756
Oct 2025	2710	2930	2754
Jan 2026	2716	2912	2756
Apr 2026	2718	2916	2758

Monthly Forecast Values

Navigation

Select Page

Predict

Model Statistics

Model Status

LSTM model loaded and ready

About

This application predicts rental prices for properties in Singapore using an LSTM deep learning model trained on historical rental data.

Predict Monthly Rent

Select Towns (up to 3)

BUKIT BATOK KALLANG/WHAMPOA SEMBAWANG

Select Flat Types (up to 3)

3-ROOM

Note: Block number and street name are fixed to standard values

Predict Rent

Current Monthly Rent Predictions

town	3-ROOM
BUKIT BATOK	S\$2674.00
KALLANG/WHAMPOA	S\$2848.00
SEMBAWANG	S\$2756.00

Rental Price Forecast (±12 Months)

Rental Price Forecast Over Time (LSTM Model)

Date	BUKIT BATOK - 3-ROOM	KALLANG/WHAMPOA - 3-ROOM	SEMBAWANG - 3-ROOM
Jul 2024	2670	2860	2750
Oct 2024	2670	2840	2750
Jan 2025	2720	2916	2752
Apr 2025	2714	2918	2754
Jul 2025	2712	2932	2756
Oct 2025	2710	2930	2754
Jan 2026	2716	2912	2756
Apr 2026	2718	2916	2758

Navigation

Select Page

Predict

Model Statistics

Model Status

LSTM model loaded and ready

About

This application predicts rental prices for properties in Singapore using an LSTM deep learning model trained on historical rental data.

Singapore Property Rental Prediction (LSTM Model)

LSTM Model Performance Statistics

Debug: Available Metrics Files

Latest Evaluation

Standard Evaluation

Training Metrics

Comparison

Latest Evaluation Metrics (Cleaned Data)

RMSE	MAPE	R ² Score
411.54	10.66%	0.5892
PICP	MPIW	
80.9%	1048.00	

Made with Streamlit

RWS

Search

[Alt+S]

Asia Pacific (Singapore)

AdministratorPermission/brian.tham

Amazon Elastic Container Service

Clusters

aop-rental-yield-prediction

Tasks

On June 25, 2025, Amazon ECS changed the default log driver mode from blocking to non-blocking to improve application availability during CloudWatch outages. [Learn more](#)

aop-rental-yield-prediction

Last updated

July 02, 2025 at 10:33 (UTC+8:00)

Update cluster

Delete cluster

Cluster overview

<div>ARN</div> <div>arn:aws:ecs:ap-southeast-1:5350028625:1:cluster/aop-rental-yield-prediction</div>	<div>Status</div> <div>Active</div>	<div>CloudWatch monitoring</div> <div>Default</div>	<div>Registered container instances</div> <div>-</div>						
<div>Services</div> <table> <tr> <td>Draining</td> <td>Active</td> </tr> <tr> <td>-</td> <td>-</td> </tr> </table>	Draining	Active	-	-	<div>Tasks</div> <table> <tr> <td>Pending</td> <td>Running</td> </tr> <tr> <td>-</td> <td>1</td> </tr> </table>	Pending	Running	-	1
Draining	Active								
-	-								
Pending	Running								
-	1								

Services

Tasks

Infrastructure

Metrics

Scheduled tasks

Configuration

Tags

Tasks (1)

Filter desired status

Any desired status

Filter launch type

Any launch type

Manage tags

Stop

Run new task

Filter tasks by property or value

Last status	Desired st...	Tas...	Health sta...	Created at	Started by	Started at	Group	Cc
Running	Running	aop-re...	Unknown	22 hours ago	-	22 hours ago	family:aop-rental-yield...	-

CloudShell

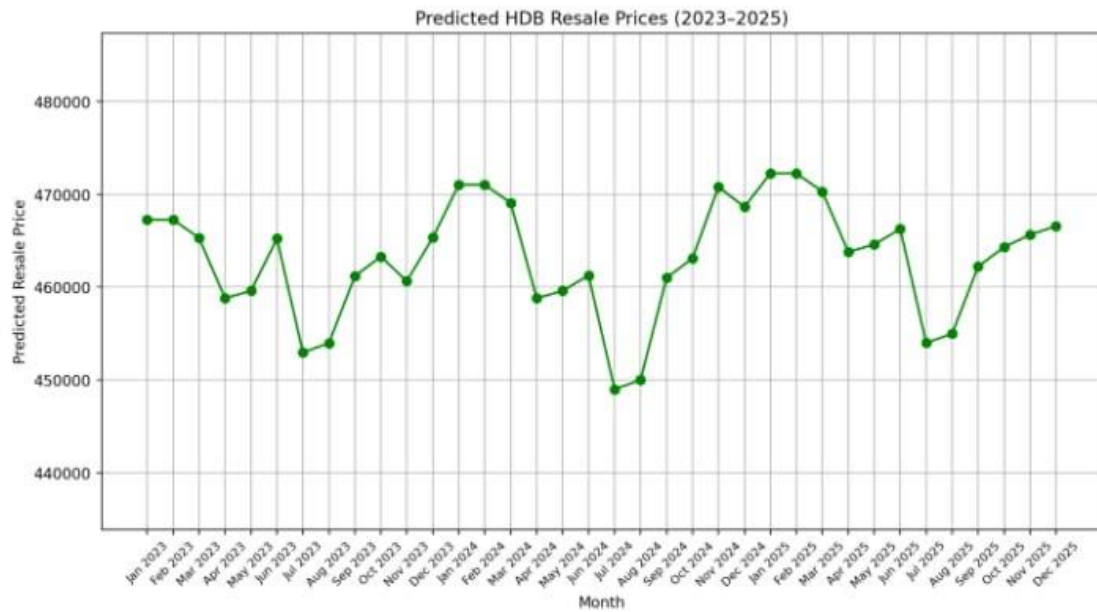
Feedback

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Feedback

- To find a tool that can develop something similar to SHAP summary

Predictive Price Analytics



- Made the graph less drastic
- Uploaded image onto AWS

Team TO-DO

1. Schedule presentation date and time with Prof Wendy for Week 13/14
2. Integrate UIs together to show a consolidated single group project
3. Continue improving models to show reliability and accuracy
4. Report soft deadline – at least 1 week before actual deadline – to show draft and make improvements