



AIRBNB-BERLIN PRICE PREDICTION

INTRODUCTION

01 Unveiling the Future of Airbnb Pricing in Berlin:

- Python-based model as a game-changer
- Utilizing machine learning for comprehensive analysis
- Factors influencing Airbnb prices:
 - Prime locations
 - Amenities
 - Historical booking patterns

02 What Sets Us Apart?

- **Precision:** Model accuracy ensures robust data analysis for informed pricing decisions.
- **Actionable Insights:** Beyond price prediction, gain insights to discover trends, anticipate market shifts, and stay ahead strategically.



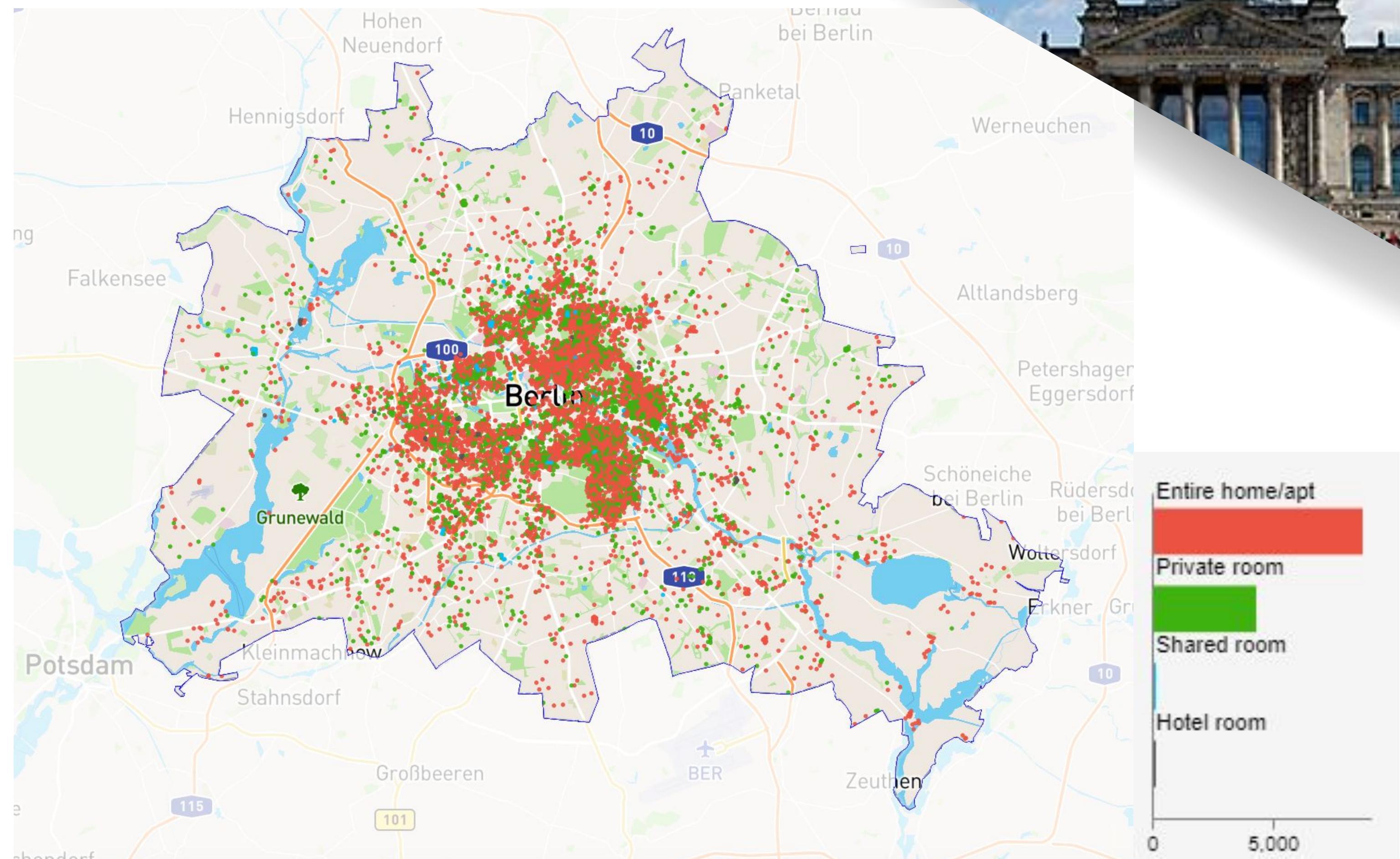


BERLIN IS THE BIGGEST AIRBNB MARKET IN GERMANY

Market Data:

- Active Rentals: 8,700 with **65%** Entire Home/Apt.
- Average Daily Rate: **95 €**
- Occupancy Rate: **66%**

MAP VISUALIZATION



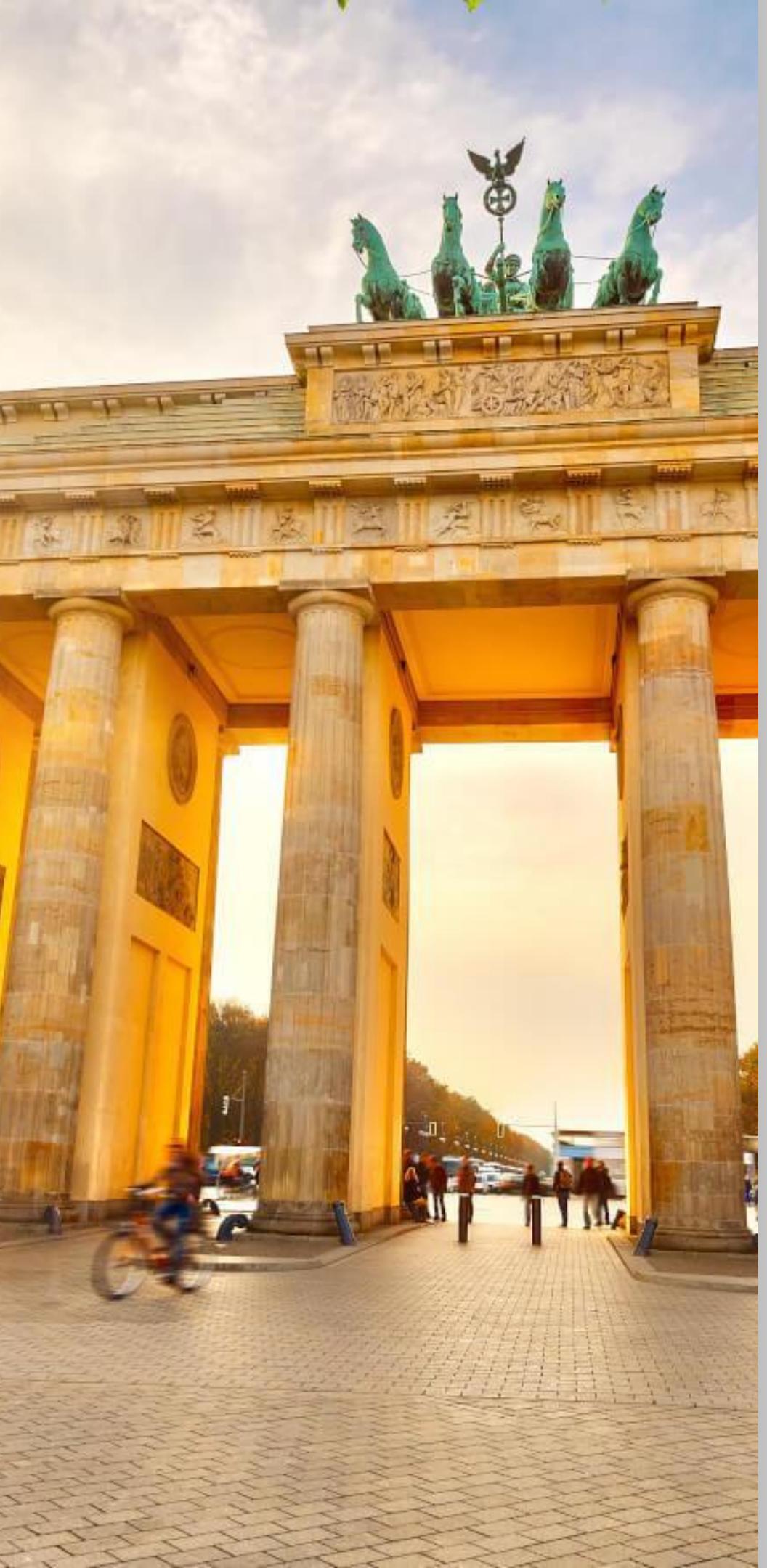
MACHINE LEARNING ENSEMBLE: LINEAR REGRESSION & DECISION TREES

neighbourhood_group_cleansed	latitude	longitude	property_type	room_type	bathrooms
Pankow	52.534710	13.418100	Entire rental unit	Entire home/apt	
Pankow	52.532690	13.418050	Entire rental unit	Entire home/apt	
Charlottenburg-Wilm.	52.500010	13.303490	Entire rental unit	Entire home/apt	
Pankow	52.548130	13.403660	Entire rental unit	Entire home/apt	
Steglitz - Zehlendorf	52.434300	13.230370	Entire rental unit	Entire home/apt	
...
Pankow	52.552905	13.400229	Entire rental unit	Entire home/apt	
Mitte	52.522356	13.426044	Entire rental unit	Entire home/apt	
Charlottenburg-Wilm.	52.485782	13.335904	Entire rental unit	Entire home/apt	
Mitte	52.544105	13.373386	Entire rental unit	Entire home/apt	
Friedrichshain-Kreuzberg	52.512652	13.462292	Entire rental	Entire	

Foundation of Predictive Model: Linear Regression

- Establishes a linear relationship between input features and target variable (Airbnb prices)
- Serves as a powerful baseline for comparison against more complex models in our analysis.

USER INPUT AND SELECTION INTERFACE



- 1- selecting district
- 2- selecting neighborhood
- 3- selecting room type
- 4- selecting accommodates

RESULT : **Price prediction**

Enter details 🏠

Select district

Charlottenburg-Wilm.

Select neighborhood

Neue Kantstraße

Select room_type

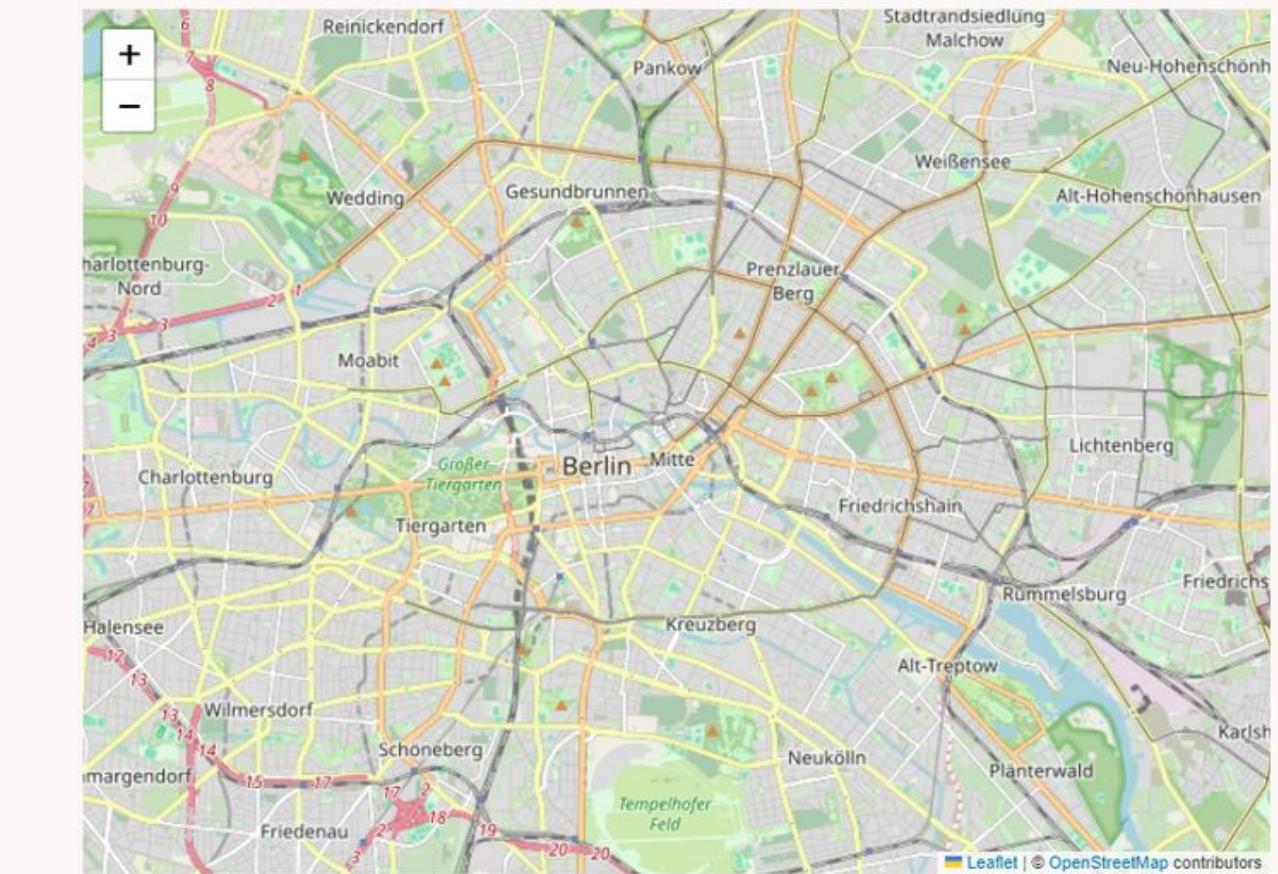
Entire home/apt

Select accommodates

1

Predict Price \$

Airbnb Berlin (Price Prediction)

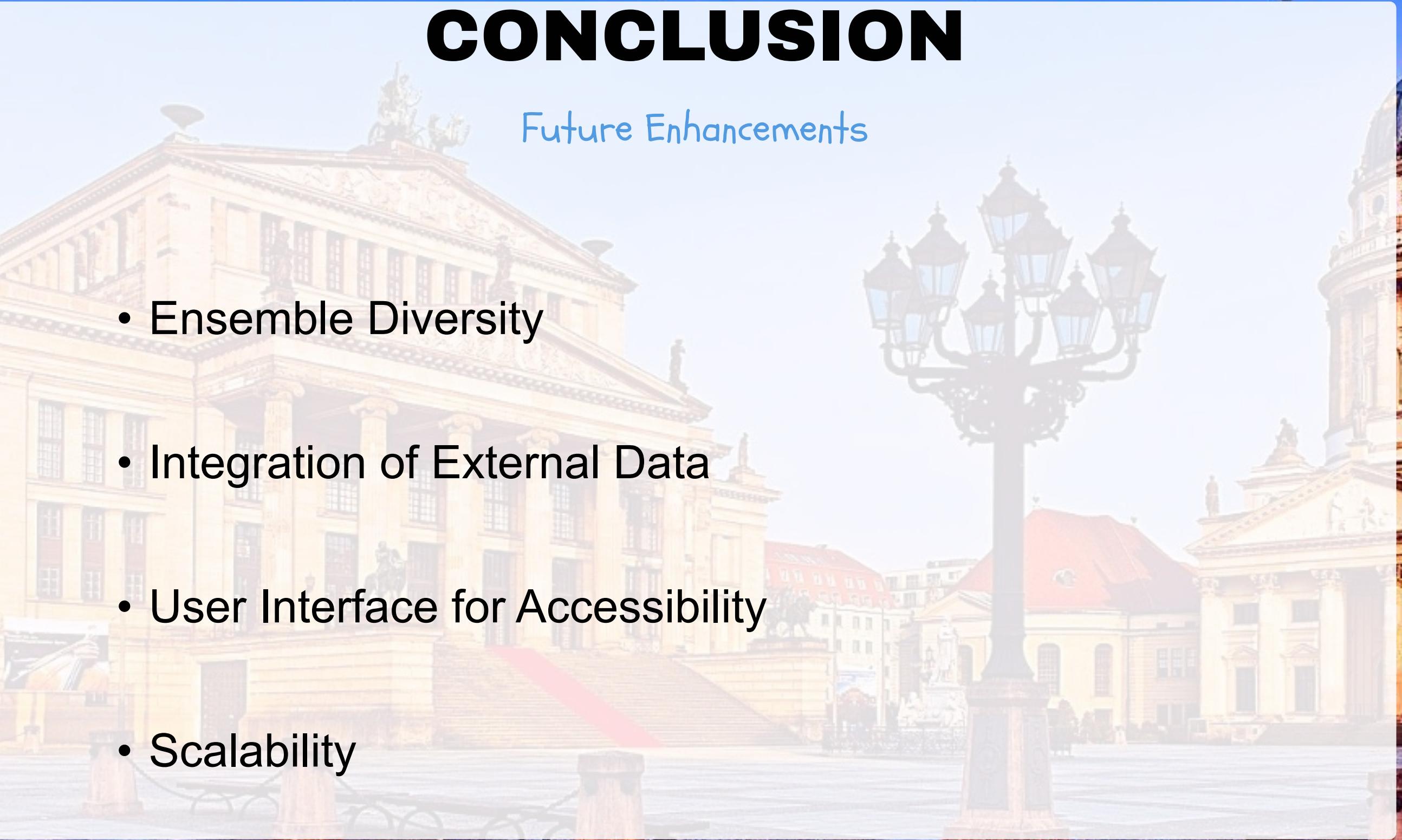


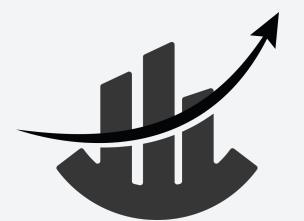
BERLIN

CONCLUSION

Future Enhancements

- Ensemble Diversity
- Integration of External Data
- User Interface for Accessibility
- Scalability





BERLIN

THANK YOU
FOR YOUR
ATTENTION

