



# CAPSTONE PROJECT

House Price Prediction with Deep Learning

Final Project

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# PROJECT TITLE

Predicting house prices accurately is crucial for home buyers, sellers, and real estate professionals. This presentation will explore how deep learning can be leveraged to create powerful, data-driven house price prediction models.

# AGENDA

1. Problem Statement
2. Project Overview
3. End Users
4. Solution and Value Proposition
5. The Wow Factor in Your Solution
6. Modelling
7. Results



# PROBLEM STATEMENT

- Problem: Traditional methods often fail to capture nonlinear relationships and intricate patterns in housing data.
- Challenge: Predicting house prices accurately requires handling diverse features such as area size, number of bedrooms, location, etc.
- Objective: Develop a deep learning model capable of accurately predicting house prices based on various features.



# PROJECT OVERVIEW

- Objective: Develop a deep learning model that can accurately predict house prices based on various features and market data.
- Approach: Collect and preprocess comprehensive housing data, design a neural network architecture, train and optimize the model.
- Expected Outcomes: A robust, scalable house price prediction system that outperforms traditional methods and provides valuable insights.



# WHO ARE THE END USERS?

- Home Buyers: Get accurate estimates to make informed purchasing decisions.
- Home Sellers: Price their homes competitively to attract buyers and maximize returns.
- Real Estate Professionals: Leverage the model to provide superior advisory services to clients.
- Researchers: Analyze housing market trends and factors influencing prices.

# YOUR SOLUTION AND ITS VALUE PROPOSITION

- **Accurate Predictions:** Our deep learning model leverages advanced algorithms to provide highly accurate house price estimates.
- **Customizable Features:** Users can input specific property details to get personalized price predictions.
- **Scalable and Efficient:** The system can handle large datasets and provide real-time predictions at scale.



# THE WOW IN YOUR SOLUTION

- Cutting-Edge AI: Our solution leverages state-of-the-art deep learning algorithms to achieve unprecedented accuracy.
- Intuitive Interface: The user-friendly platform makes it easy for anyone to access the powerful price prediction capabilities.
- Continuous Learning: The model continuously learns and improves, adapting to changing market conditions and trends.

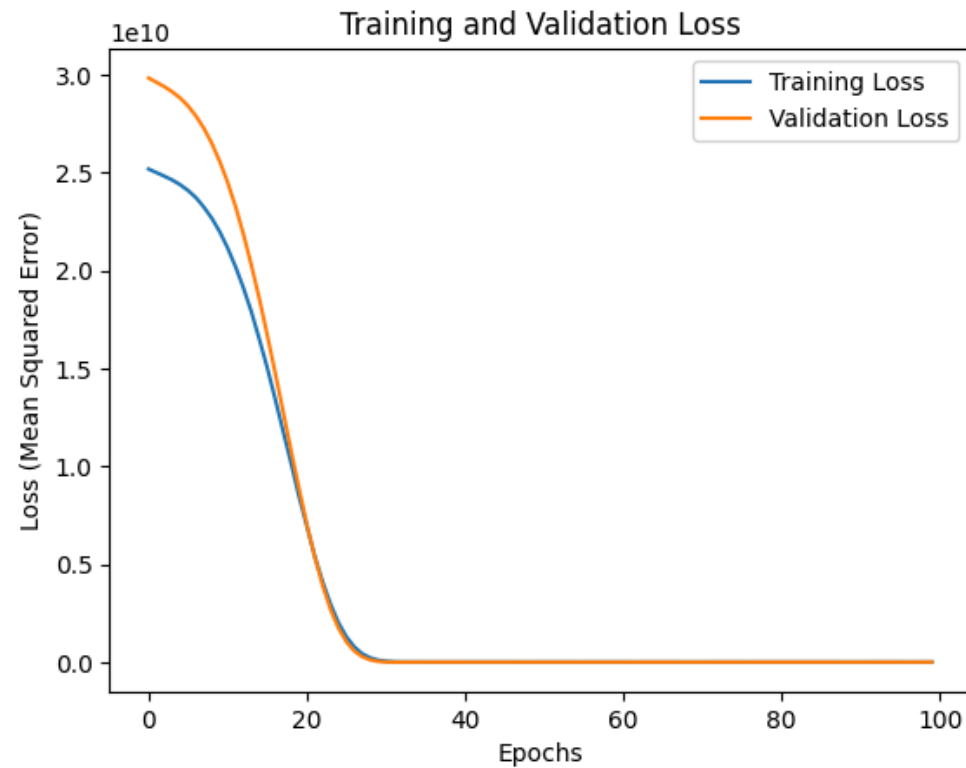




# MODELLING

- Input Features: Property details, location, market data, economic indicators.
- Neural Network Architecture: Multilayer perceptron with dropout, batch normalization, and other advanced techniques.
- Training Data: Comprehensive historical housing records from multiple sources.
- Evaluation Metrics: Mean Absolute Error, R-squared, and other regression performance metrics.

# RESULTS



<https://drive.google.com/file/d/1KaH7cFidRn1yuzeaPHMq6II0fBvNEvQI/view?usp=sharing>