# Case Study: Nearly New Nautical

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Business Description & Business Goal

- Nearly New Nautical is a boat listing website serving as an intermediary between buyers and sellers

- Problem: Product manager wants to prevent listing boats that do not receive many views

- Goal: Increase traffic website.

- Solution: create a predictive model which will predict the amount of views a boat will generate

Summary of Work

Regression Problem: focus on quantity

Linear Regression Model and RandomForestRegressor
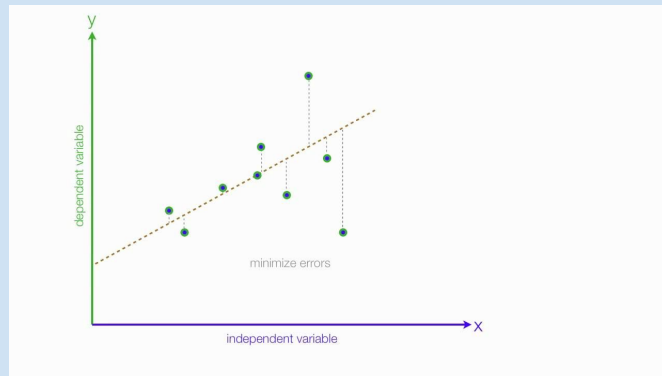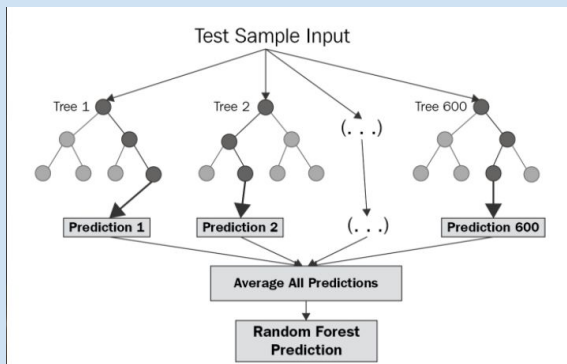
R-squared and RMSE

Baseline model generated R-squared of 0.1 and RMSE of 0.68. Comparative model generated R-squared of 0.24 and RMSE 0.63. The comparative model has a higher R-squared meaning model better captures the variation of the feature variables and lower RMSE meaning it has better predictive power than baseline model.

Key Findings

Random Forest Regression Feature Importance
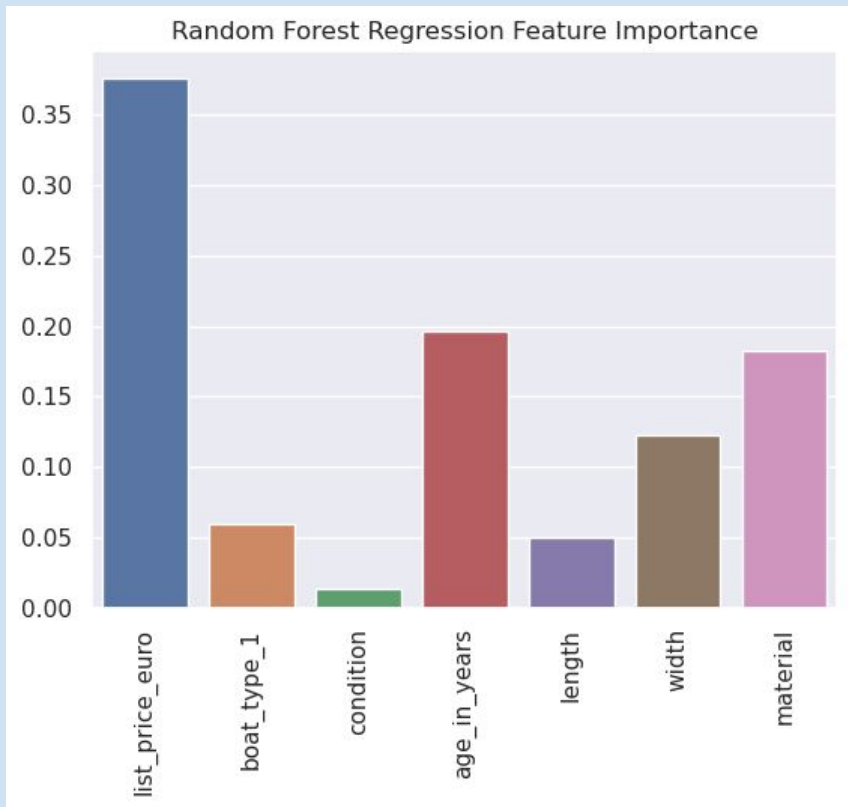
Important Features:
Price: how much you list the boat for

Age_in_years: how old the boat is

Material: type of material (grp)

Width: wider the boat more preferred

Key Findings

62% MEETS 50% REQUIRED

Product manager wanted to be able to predict the amount of views the model will generate within 50% to what the model should

Example: if 5 views, model predict views between 2.5 and 7.5. The RandomForestRegressor model does so 62% of the time

Future Recommendations

Update the listing page on the website to force users to fill out all fields so none are left empty
- manufacturer should not be submitted as null) in the future.
- Add new columns for type to account for condition and fuel type separately. In location, force users to input the country, state/province, city/region/suburb, postal code rather than whatever they want allowing for optimal data generation.

boat_type: motor yacht, condition: used boats, material: grp receive the most views.
Recommendation: product manager should consider creating advertising that mention such words to create website traffic.

When it comes to boat_types ketch, rib and boat material: reinforced concrete and rubber, these listings can be removed as they did not generate any views.