

Should I get a hot tub?

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Capstone Proposal 2

Airbnb, one of the most disruptive companies in recent history, worth over \$30b with almost 100 million stays per year. However; very little analytic data is available to help Airbnb owners maximize their revenue potential. I am partnering with a company called AirDNA to help create useful analytics and predictions for entrepreneurs interested in the Airbnb market.

AirDNA currently uses an algorithm incorporating location, nightly price, estimated occupancy rate, number of bedrooms and number of baths. I aim to discover trends within other property features such as rating, number of guest reviews, amenities (including hot tubs, pools, roof-decks, etc.) to inform the property estimate and make personalized recommendations for Airbnb owners on how to increase their value.

Using the AirDNA database which contains the current AirDNA valuation, a set of 100 features (including full listing text), I will use a combination of tools including principal component analysis, boosting and regression to determine the most important features and make location-based recommendations on how to improve revenue.

1. What question are you trying to answer:

What amenities have the most influence on rental values and are there groups of listings that are in clusters?

2. Data:

I have a two databases, one with all property information (7,282 properties and 117 features) for Denver, and one with all booking information(each booking event for 11,914 properties by 13 features) for Denver, as well as unlimited access to the AirDNA API.

3. Minimum Viable Product

- MVP : Script that returns 3 most important additional features for a given listing
- MVP + : create clusters of similar homes in an area based on top features and / or NLP of descriptions
- MVP ++ : Integration of data into rentalizer with ability to see personalized recommendations based on listing ID