WHAT MAKES A GOOD GAME?

Jacob Prebys

MISSION

To combine video game reviews with plot summaries and gameplay information, and use natural language processing techniques to predict critical reception

DATA

THE REAL STUFF

BUILDING THE DATASET

METACRITIC

Professional reviews

User reviews

ESRB Ratings

VGCHARTZ

Global/regional sales

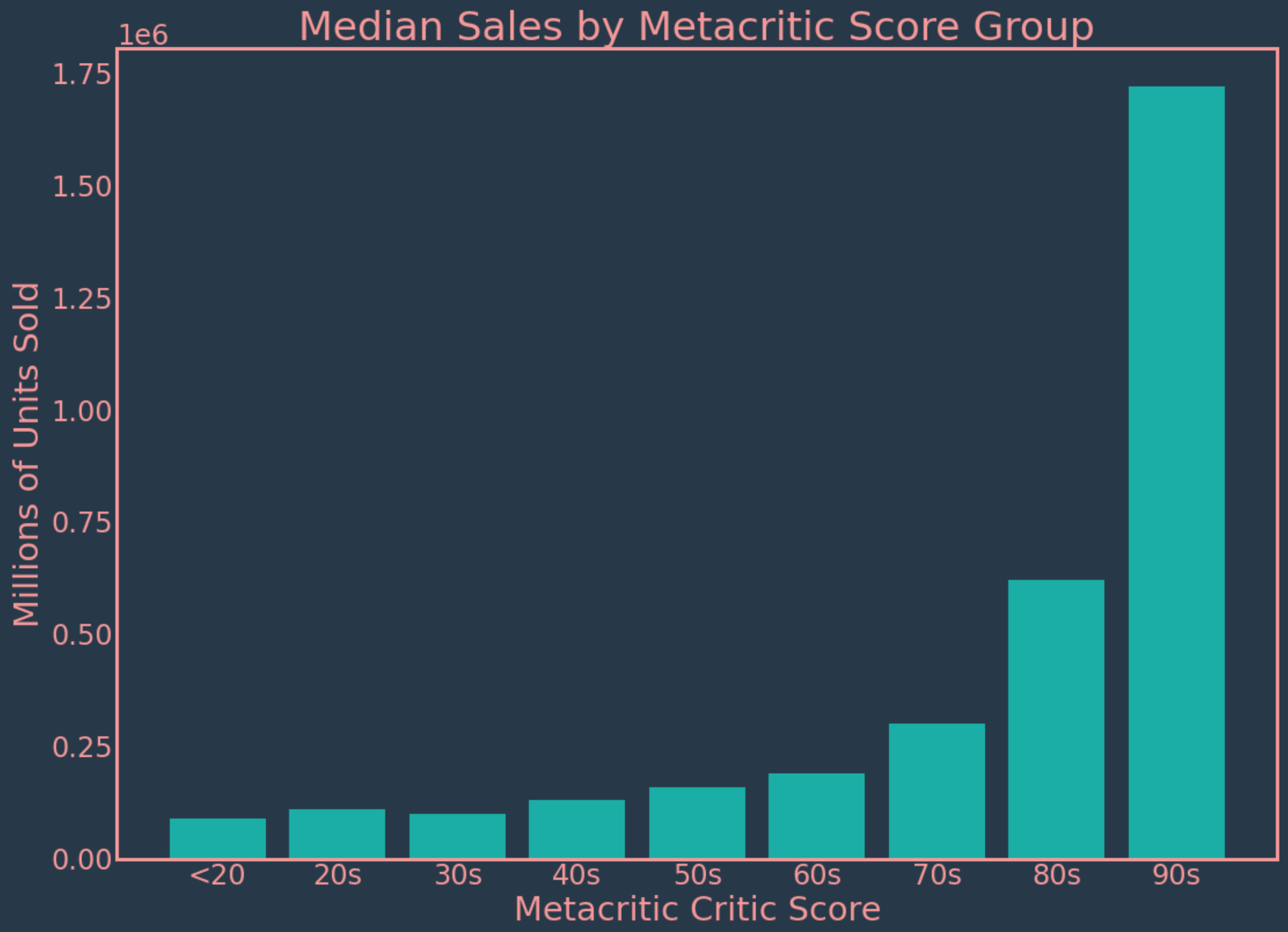
Release dates

WIKIPEDIA

Plot summaries

Gameplay details

5500+ complete entries



TARGETING CRITIC SCORES

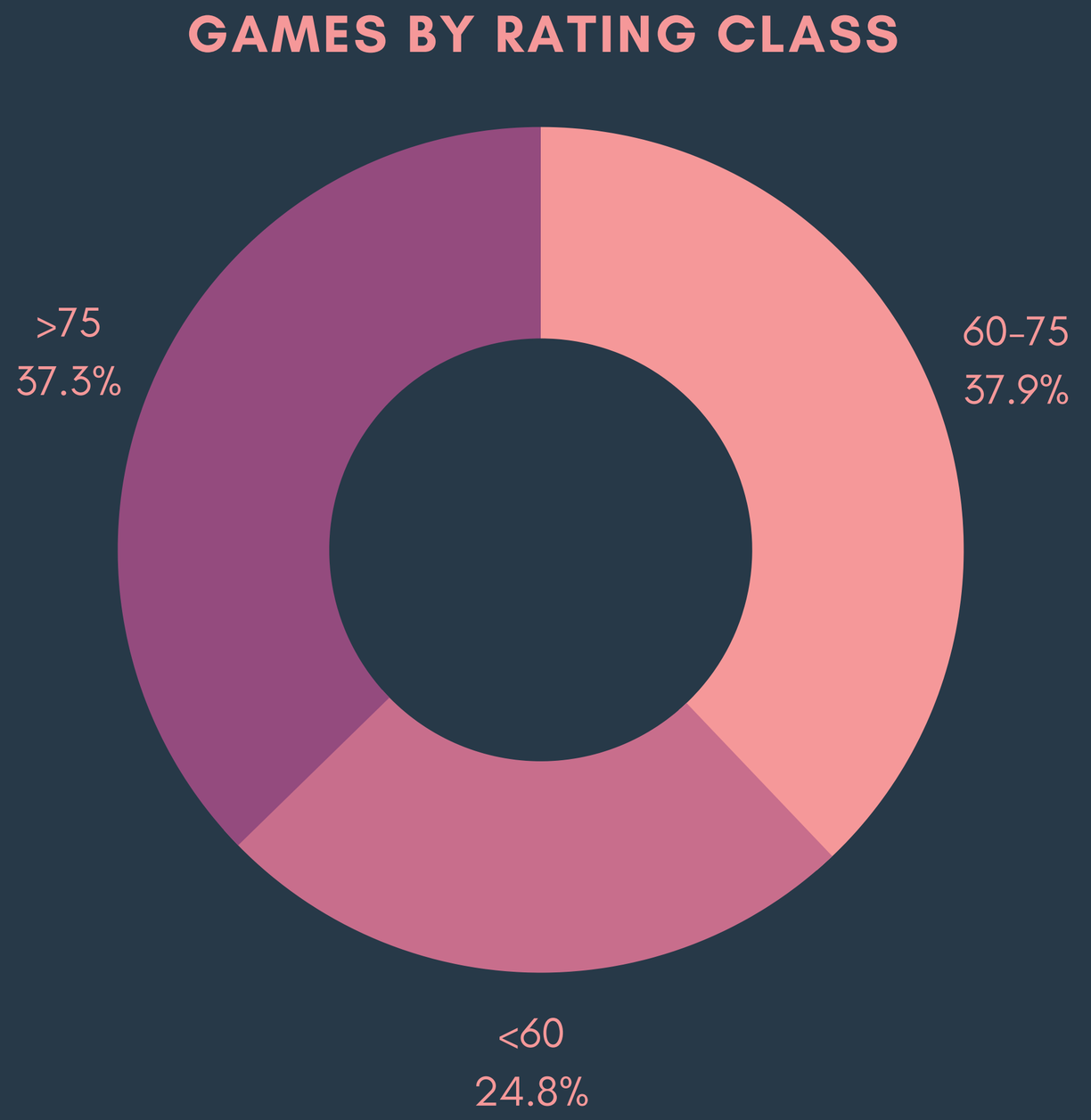
WHO CARES?

You care!

Higher critic scores will raise your global sales potential

MAKING CLASSES

Turn this problem into a classification by binning the review scores into three classes of success



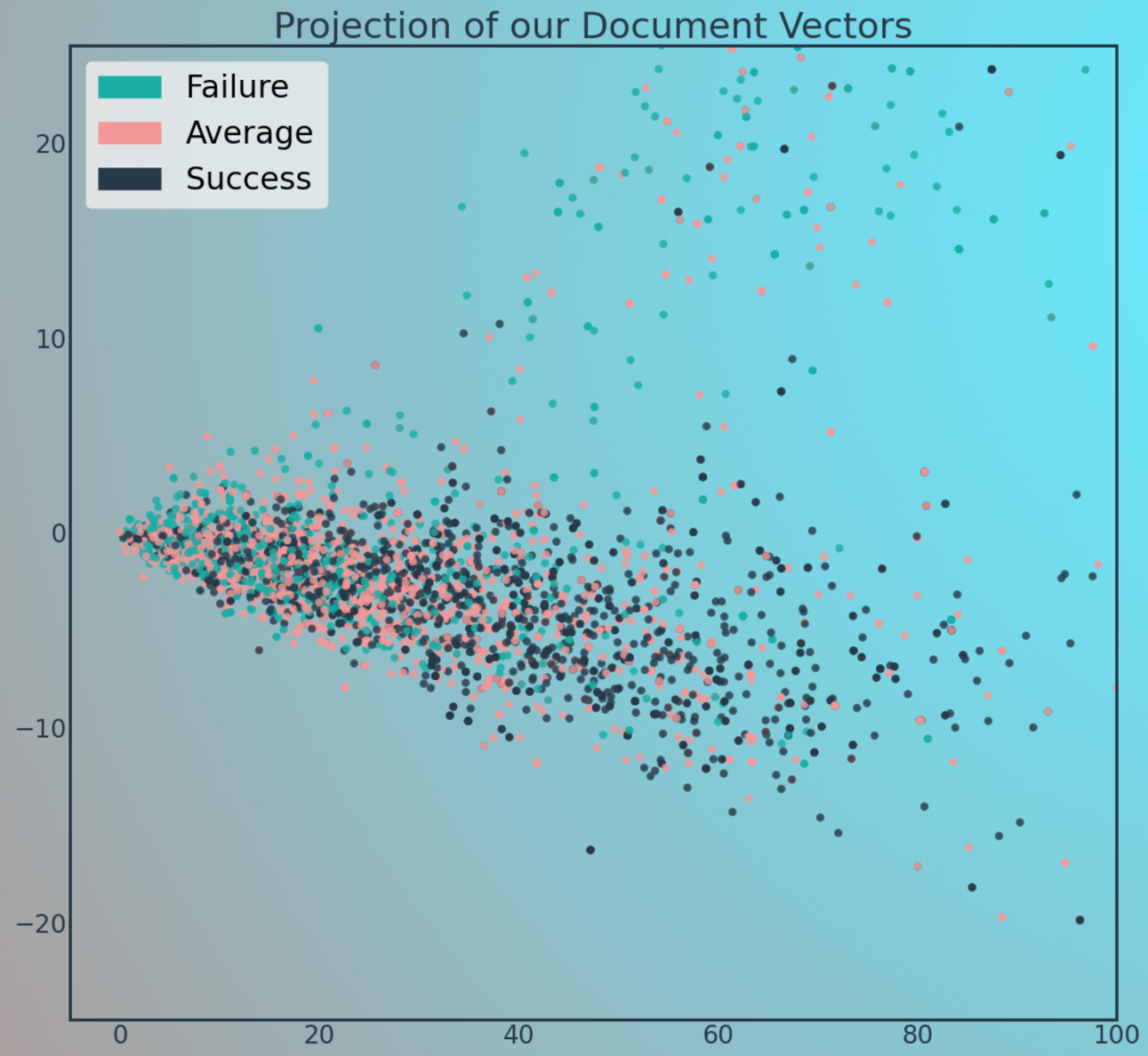
Text Processing

LEMMATIZATION

Reducing words to their roots

VECTORIZATION

Turning the game descriptions into numerical data



MODELING

THE GOOD STUFF

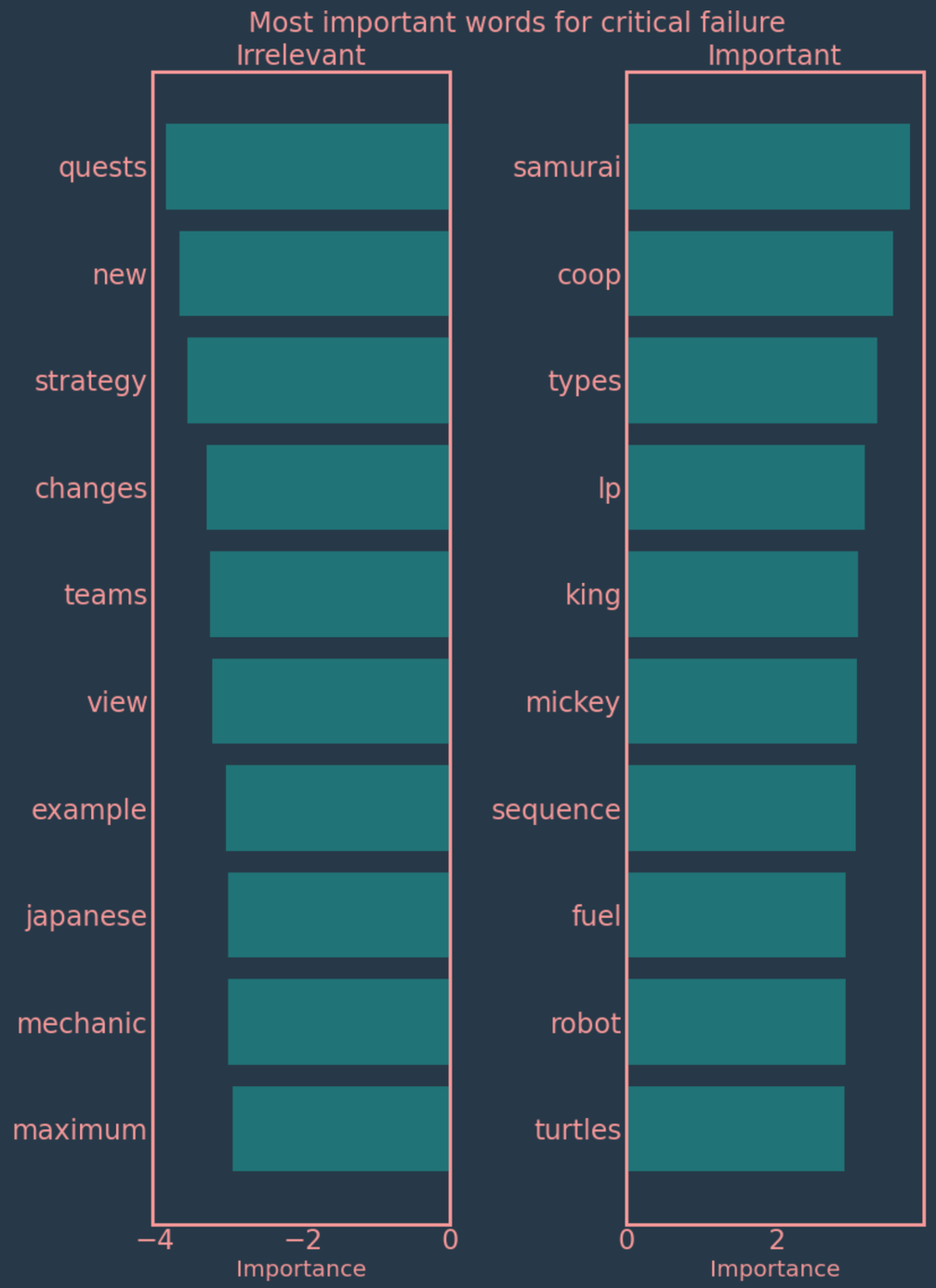
THE MODEL SO FAR

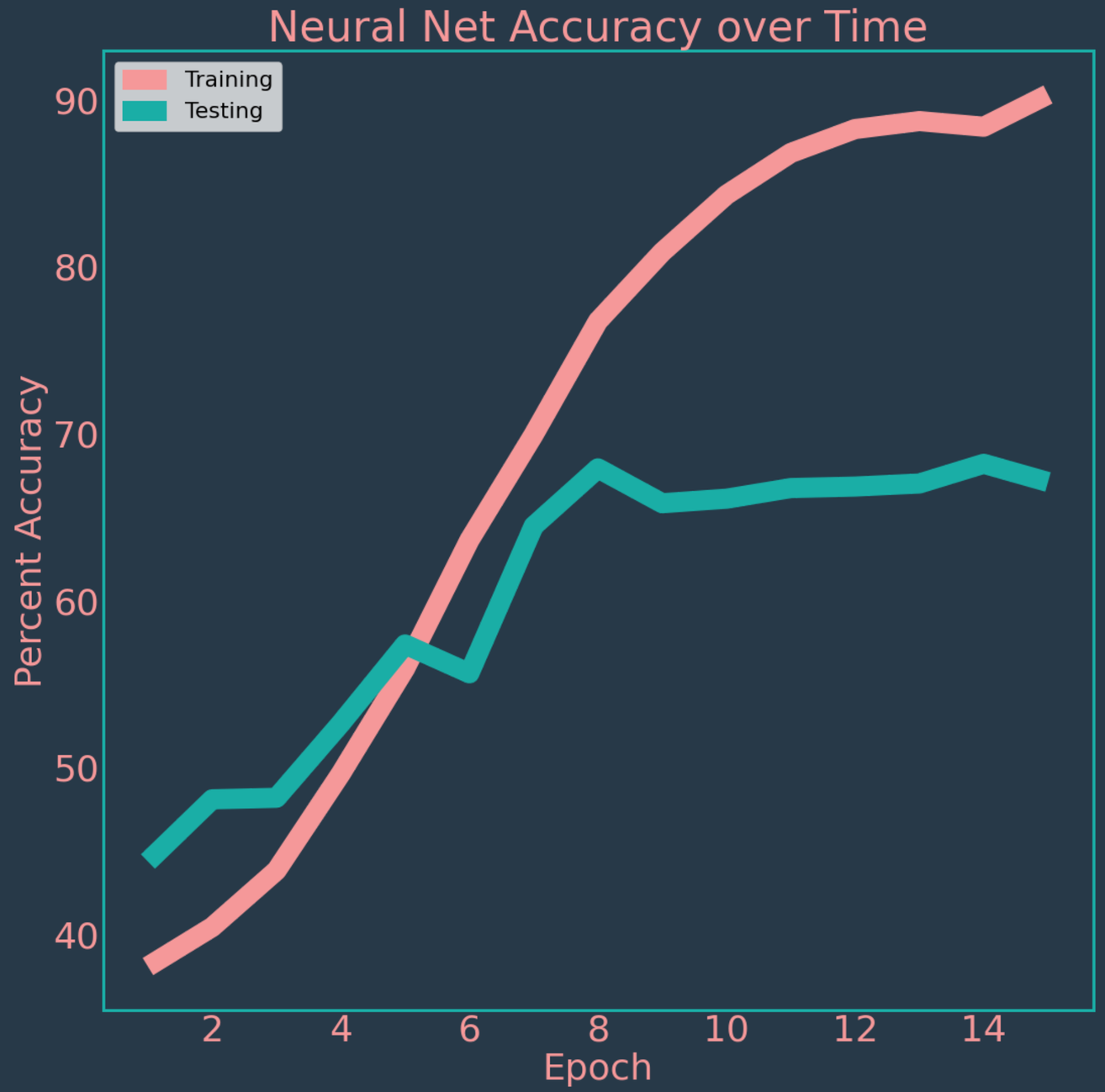
- Logistic Regression

- Balanced class weight

- Showing high variance

66% accuracy





GOING DEEPER WITH DEEP LEARNING

NEURAL NETWORKS CAN HELP

- Convolutional Neural Network

- Pre-trained word embeddings

- Still shows high variance

69% accuracy

FEATURE ENGINEERING

-Better text preprocessing

-More advanced word embeddings

ALGORITHM CHOICE

-Explore boosted models

-Further investigate NNs for NLP

DEPLOYMENT

-Develop a web application

-Design recommender system

FUTUREWORK

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