

Ravelry Knitting Pattern Recommender Engine

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Ravelry – A Website For Fiber Artists

World's most
extensive database of
patterns and yarns

As of 2023:

1.2 million patterns

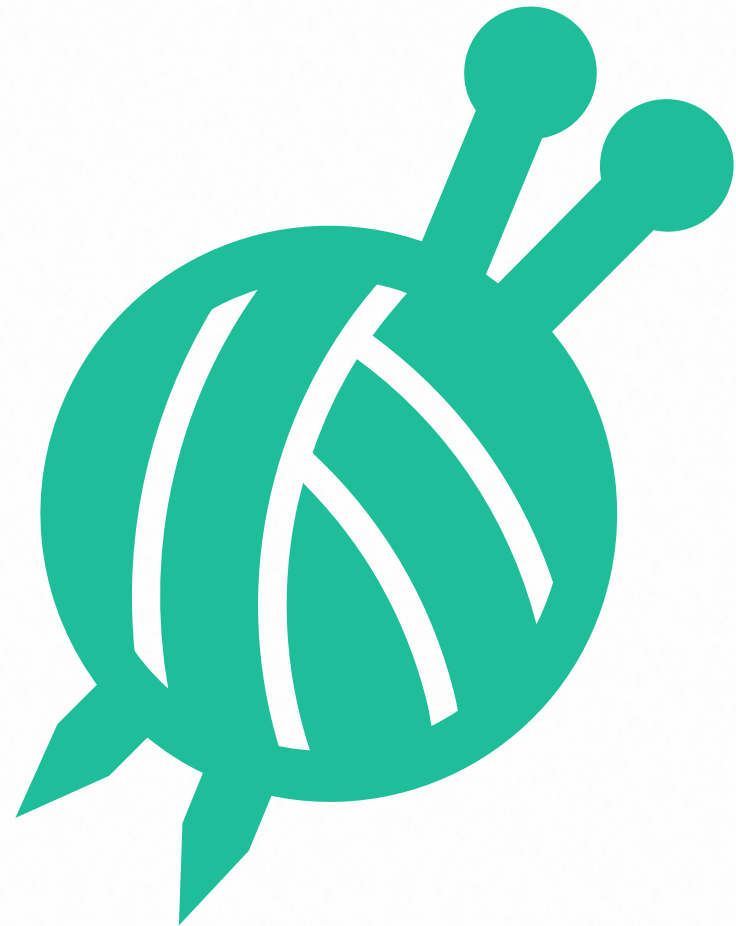
11 million registered
users



Which Pattern to Knit Next?

Thousands of patterns to choose from can lead to decision fatigue.

A recommender engine can help fiber artists narrow down choices and lead to a greater likelihood of purchasing a pattern.




Ravelry API Script

First API call to get the pattern ID. Patterns limited to most popular knitting patterns by American designers and not yet discontinued.

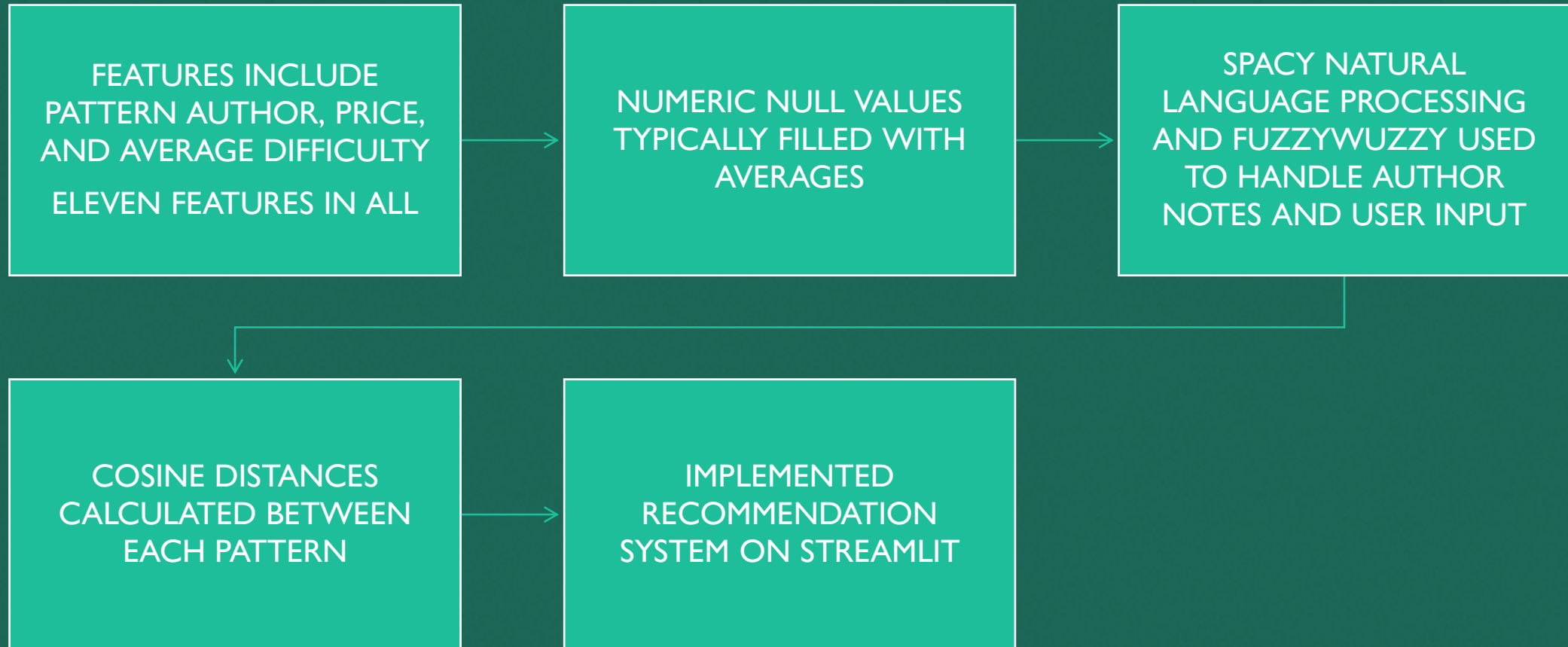


Second API call to use the pattern ID to get more detailed data such as pattern author, price, average, difficulty, and gauge.



Transformed collected features into a CSV file

Recipe For a 15,000 Pattern Recommendation Engine



Recommendation Pattern Example

Pattern Name	Average Overall Rating	Average Difficulty Rating	Yarn Weight	Project Count	Project Queue	Author
<i>Musselburgh</i>	<i>4.9</i>	<i>2</i>	<i>Fingering</i>	<i>23,805</i>	<i>3,114</i>	<i>Ysolda Teague</i>
Hermione's Everyday Socks	4.7	2	Fingering	40,897	13,612	Erica Leudar
Turn A Square Hat	4.5	1	Worsted	20,280	7239	Jared Flood
Monkey Socks	4.6	3	Fingering	23,277	6,087	Cookie A
Jaywalker Socks	4.3	3	Light Fingering	12,389	3,919	Grumperina
Simple Skyp Socks	4.7	2	Sport	11,863	5,596	Adrienne Ku

Streamlit App

Type in a pattern you like and get five recommendations based on its pattern features.

Pattern Recommender

Enter a knitting pattern you like! We'll make a best guess based on your input.

Sipila

Submit

We think you are looking for the pattern titled Sipila: <https://www.ravelry.com/patterns/library/sipila>

Navelli: <https://www.ravelry.com/patterns/library/navelli>

Misurina: <https://www.ravelry.com/patterns/library/misurina>

Birkin: <https://www.ravelry.com/patterns/library/birkin-3>

Nordiska: <https://www.ravelry.com/patterns/library/nordiska>

Sunset Highway: <https://www.ravelry.com/patterns/library/sunset-highway>

Room For Improvement

SQL Queries – Allow users to search for patterns by author or yarn weight

Increase potential guesses based on user input

Take advantage of their photo database...



Photo VGG16 CNN

Implemented VGG16 convolutional neural network as a transfer learning model

Classes are pullover, hat, or socks

VGG16 is older, but simple to use

Initial model training scored 86% accuracy, but 30% on test data.



Questions?

Congratulations Everyone!

