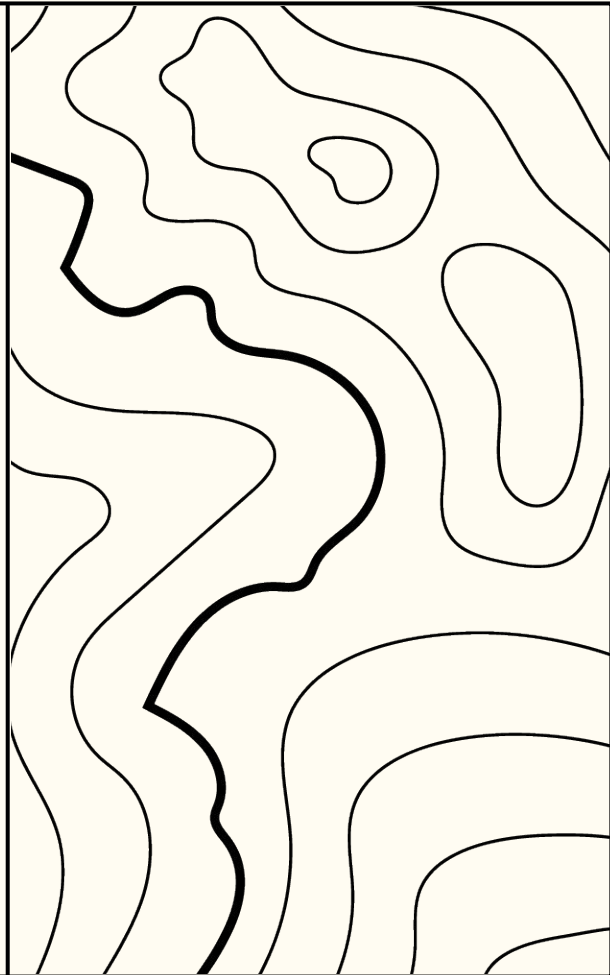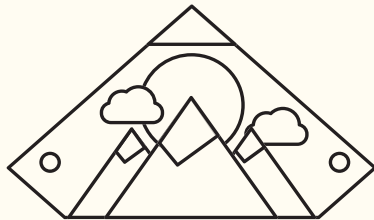# TAKE A HIKE

FIND YOUR PERFECT TRAIL

Christina Chang

MOTIVATION

ESTIMATE DIFFICULTY OF A TRAIL

The difficulty level of a trail is helpful for deciding whether you are prepared to complete a hike
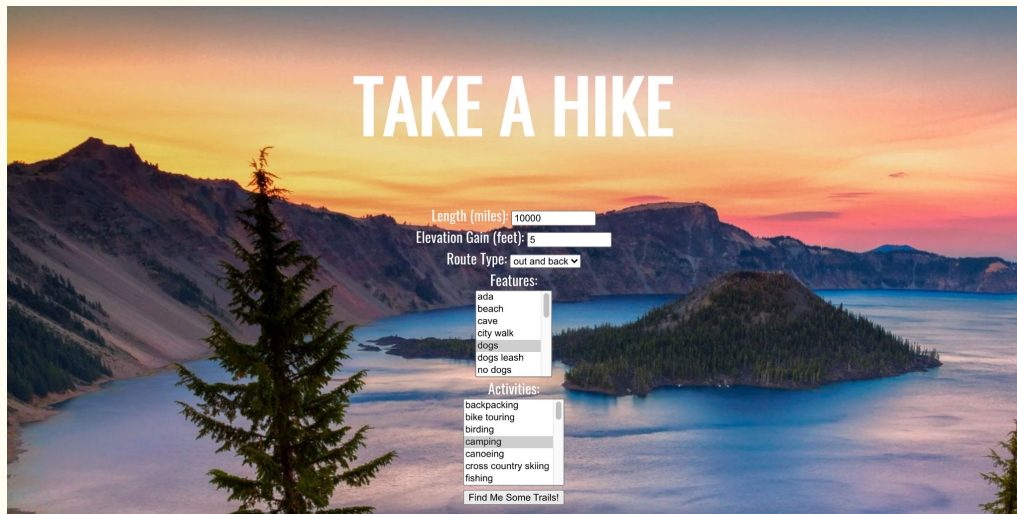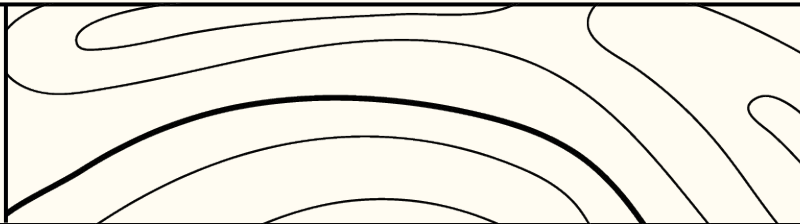
DISCOVER NEW TRAILS

Provide recommendations on trails in National Parks based on user preferences

DEMO

Take me to the app!

DATASET

- Data includes 3,294 National Park trails
- Data cleaning
  - Removed closed trails
  - One hot encoded tag features
  - Converted trail length from yards to miles

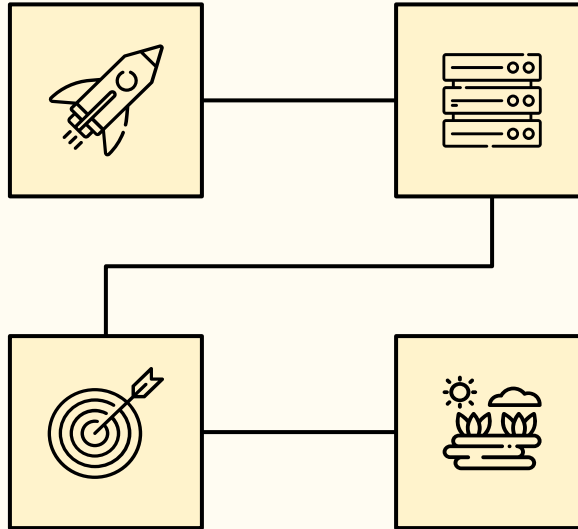|	trail_id	name	area_name	city_name	length	elevation_gain	route_type	features	activities
0	10020048	Harding Ice Field Trail	Kenai Fjords National Park	Seward	8.87	1161.8976	out and back	['dogs-no', 'forest', 'river', 'views', 'water...	['birding', 'camping', 'hiking', 'nature-trips...
1	10236086	Mount Healy Overlook Trail	Denali National Park	Denali National Park	3.93	507.7968	out and back	['dogs-no', 'forest', 'views', 'wild-flowers',...	['birding', 'camping', 'hiking', 'nature-trips...
2	10267857	Exit Glacier Trail	Kenai Fjords National Park	Seward	1.65	81.9912	out and back	['dogs-no', 'partially-paved', 'views', 'wildl...	['hiking', 'walking']

MODELING

SUCCESS CRITERIA

Model is successful
if accuracy > 70%

EVALUATION

Final model
achieved an
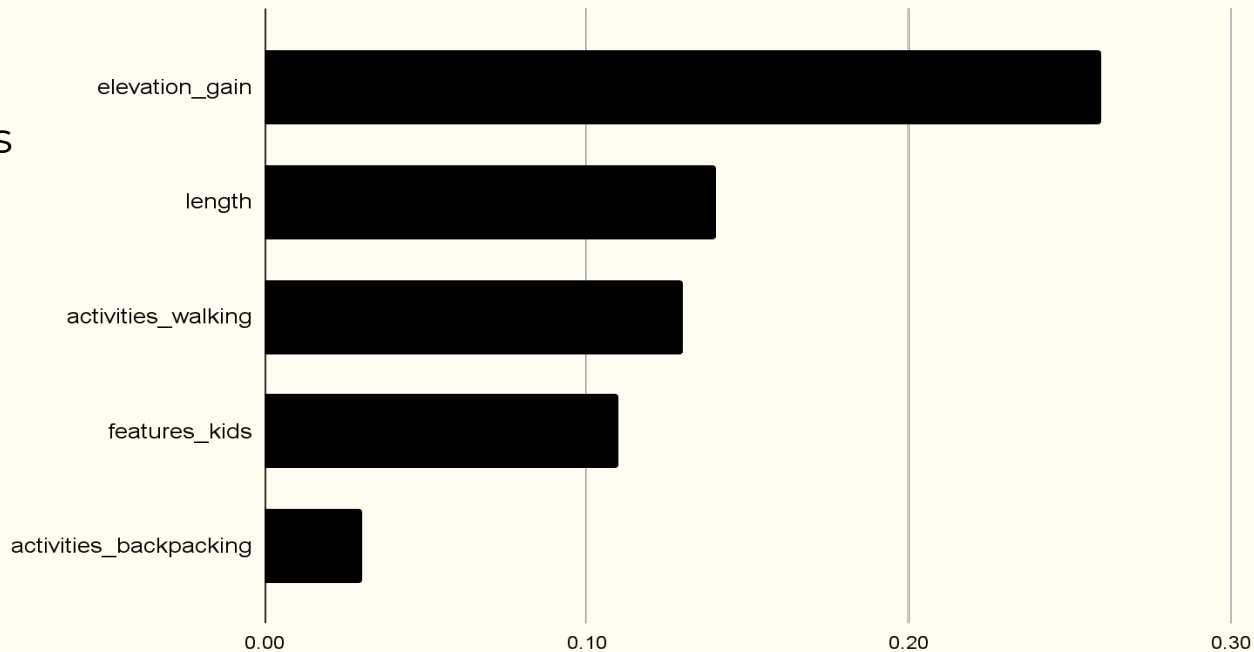accuracy of 78%

CLASSIFY

Use a random forest
classifier to predict
difficulty (easy,
moderate, hard)

RECOMMEND

Content-based
filtering using
cosine similarity

MODEL INSIGHTS

Random Forest
Feature Importances
for Classifying
Difficulty Level

THANKS

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