

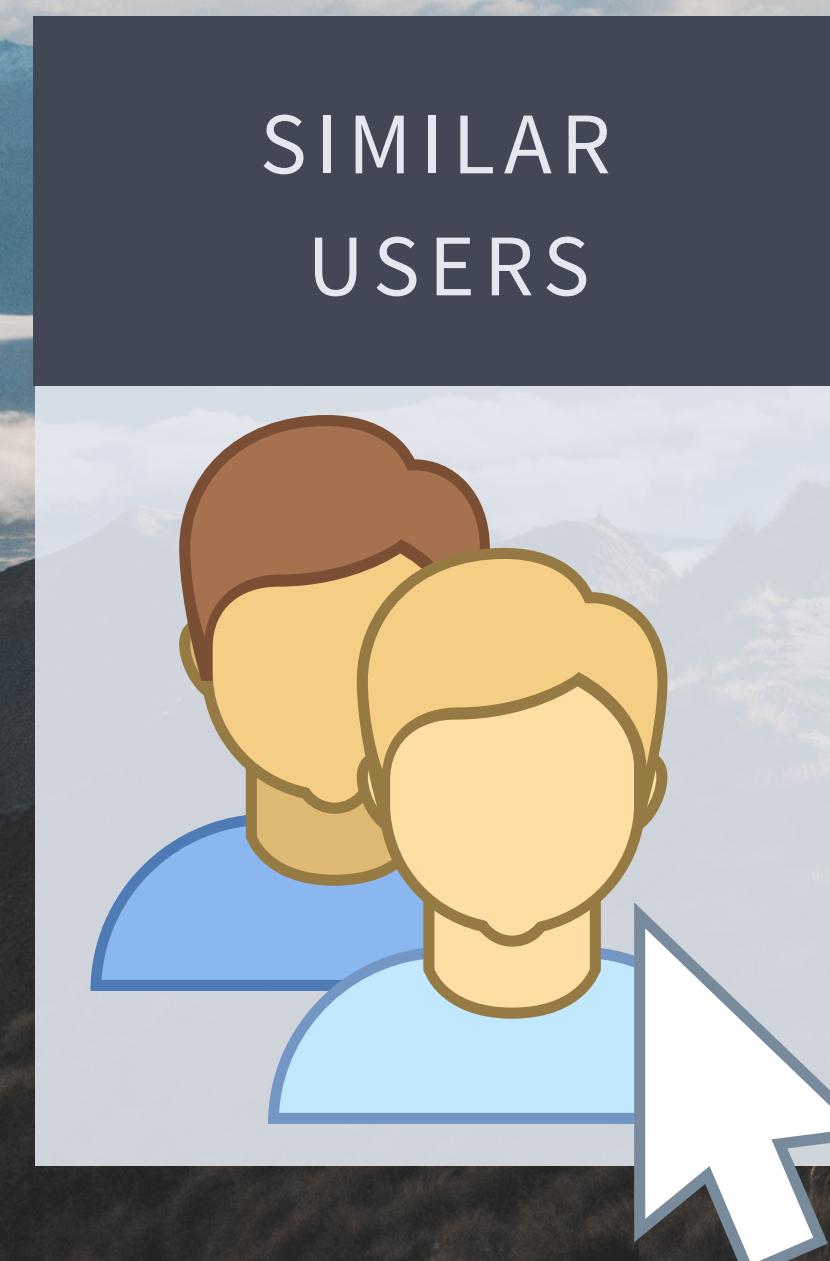
The background of the image is a stunning landscape featuring a range of mountains with patches of snow and ice. In the foreground, there's a calm lake reflecting the surrounding green forest and the clear blue sky above.

LIGHTHOUSE LABS

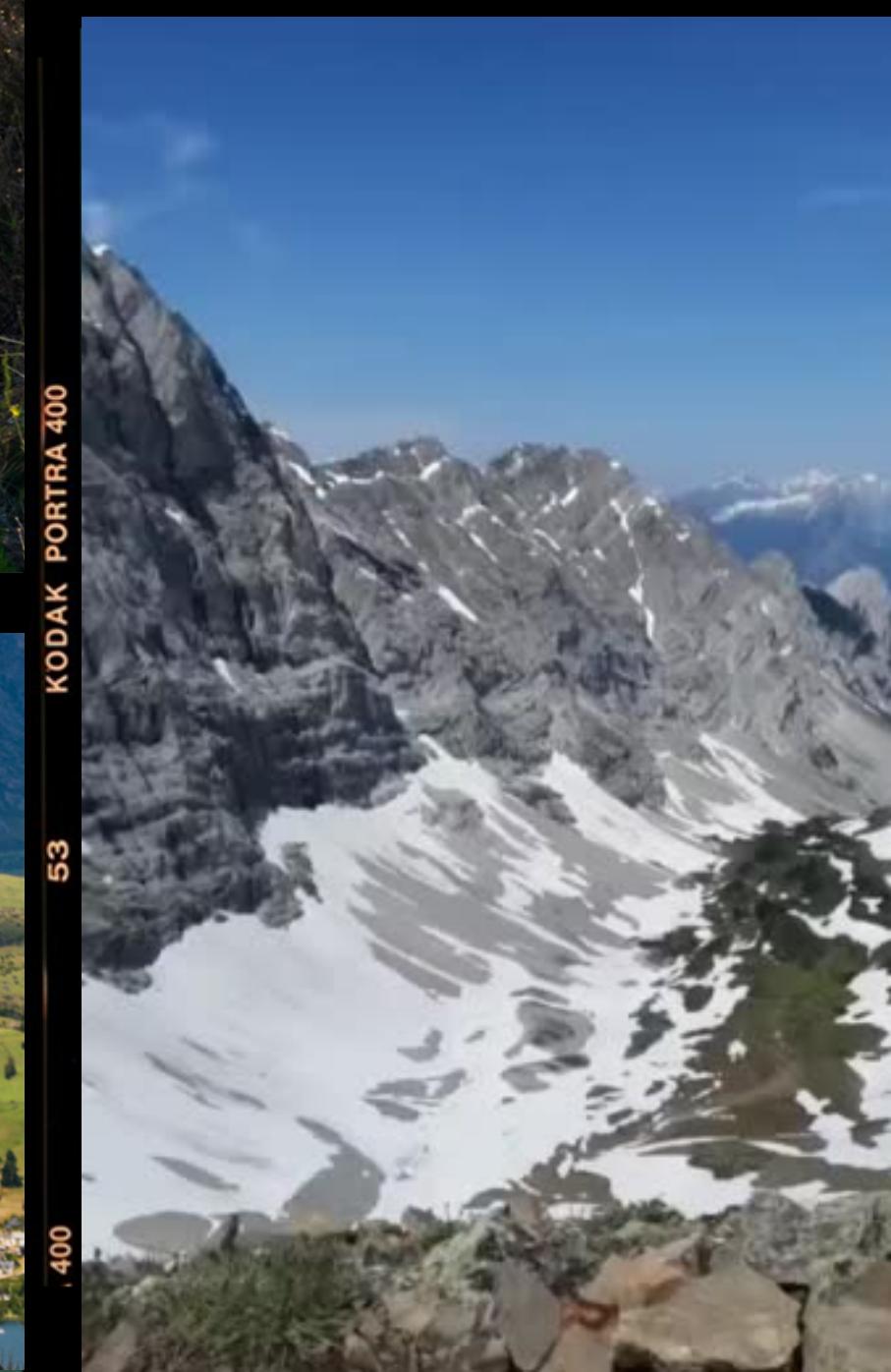
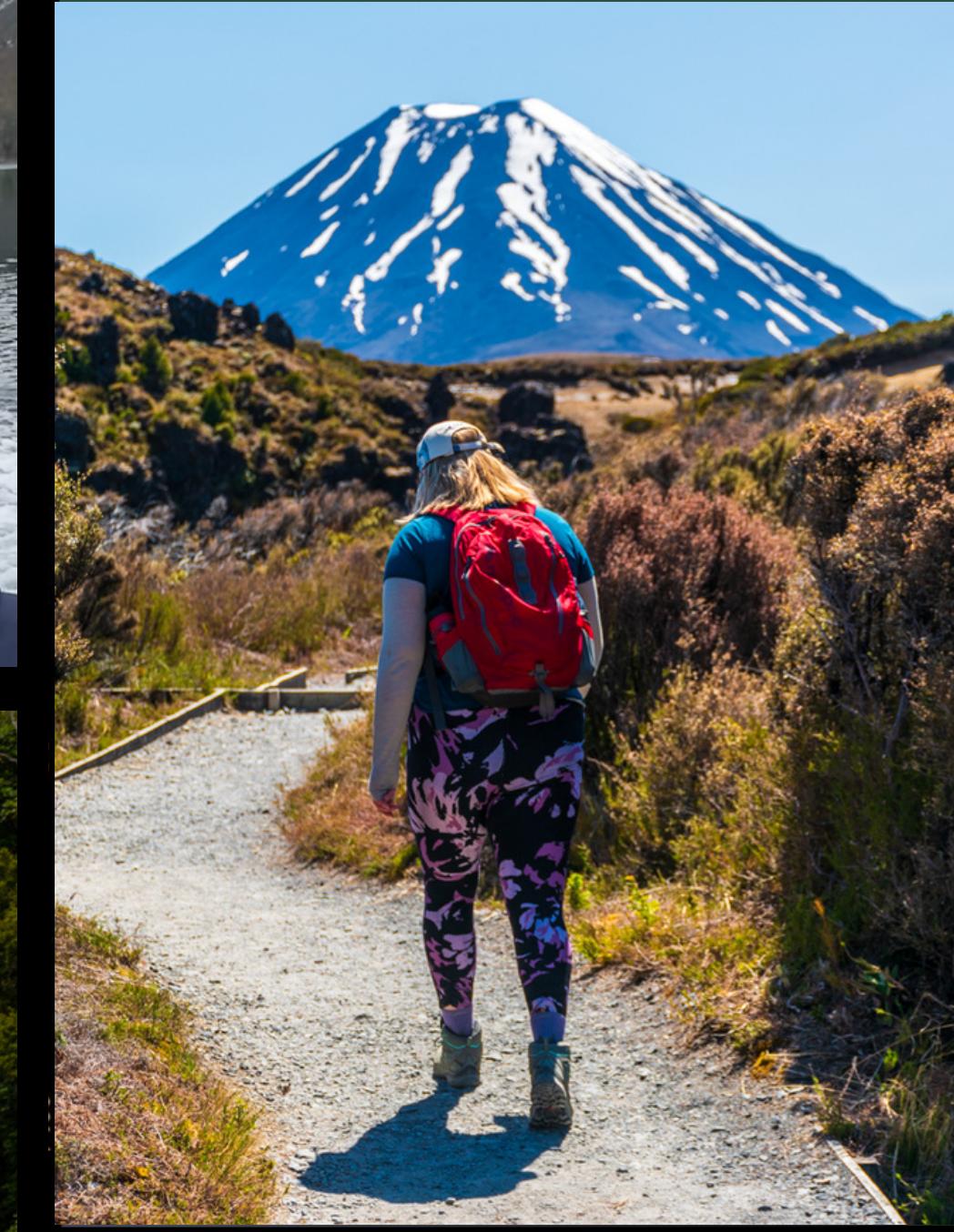
HIKING TRAIL RECOMMENDER SYSTEM

Robyn Mundle

RECOMMENDER ENGINES



Hiking Trail Recommender System



BUILDING A HIKING DATASET

■ GATEKEEPING

Knowing the hiking trail before you can hike them to know the hiking trails

■ PRE-EXISTING TRAIL INFO

Open-sourced datasets not available

BUILDING A HIKING DATASET

■ GATEKEEPING

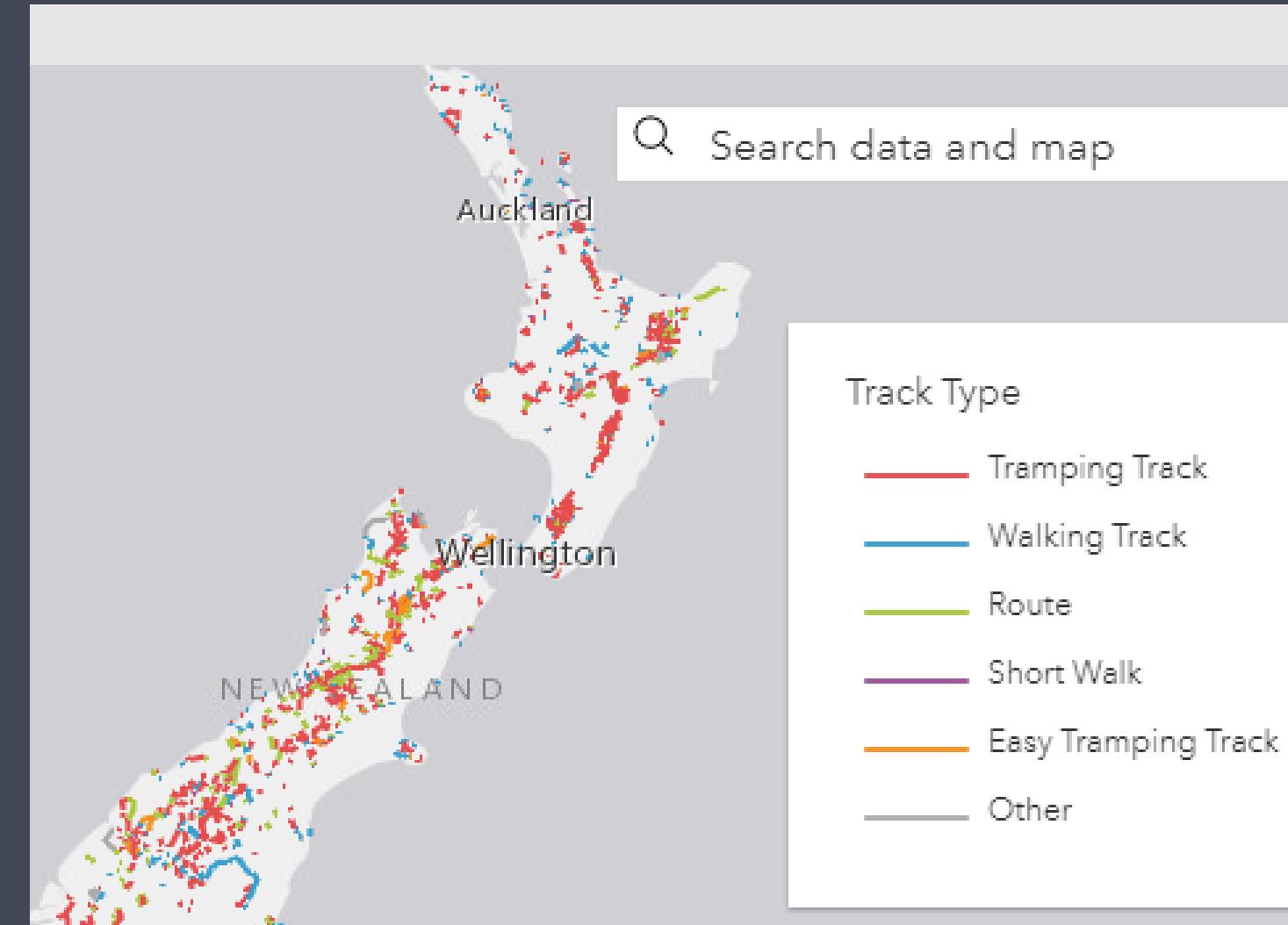
Knowing the hiking trail before you can hike them to know the hiking trails

■ PRE-EXISTING TRAIL INFO

Open-sourced datasets not available



Department of Conservation
Te Papa Atawhai



BUILDING A HIKING DATASET

■ GATEKEEPING

Knowing the hiking trail before you can hike them to know the hiking trails

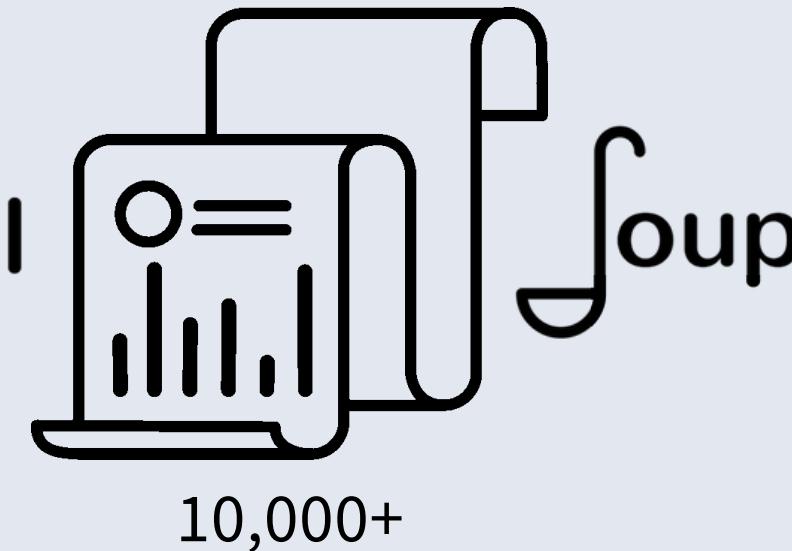


■ PRE-EXISTING TRAIL INFO

Open-sourced datasets not available

BUILDING A HIKING DATASET

Beautiful



10,000+

WEB SCRAPING

- DOC Tracks -- trail names
- WalkingKiwi -- trail stats

Beautiful Soup

Selenium Chromedriver

Jupyter Labs

Python + HTML



TRANSFORMATION

- Cleaning the data
- Feature Engineering
- Content-based filtering model

Pandas

Numpy

Matplotlib

Sklearn Euclidean Distance



DEPLOYMENT

- Model with dataset filtering
- Deployed to AWS

Streamlit.io API

AWS EC2 Instance

Directory

Recommend

Data Overview

Welcome to the hiking trail recommender system for New Zealand.

Recommender systems are among the most popular applications of data science today. They help to overcome the problem of being inundated with choices. With this recommendation system you can parse through trailheads to find appropriate hikes that suite your needs and help you get out and enjoy the beauty of New Zealand.

Some of the hiking trail information was assembled from the [Department of Conservation \(DOC\)](#) and used under the [Creative Commons 3.0 license](#) in combination with track data obtained from other sources.

Data was acquired May 2021 and may not accurately reflect current trail information. If you intend to walk a track, please confirm with your local office or the DOC website that the track isn't under a temporary or more permanent closure before embarking.



Hike Search Engine

Search by Trail Name



Search by Region

All Regions

Search by Duration

All Lengths (h)

Search by Length

All Lengths (km)

Search by Total Elevation

All Elevations (m)

Number of Hikes to Recommend

5



Recommend

≡

Reflection & Future Directions

Collaborative Model Filtering:
User reviews and/or ratings



Hiking Trail Recommender System

The background of the image is a stunning landscape featuring a range of mountains with patches of snow and ice. In the foreground, there's a calm body of water, likely a lake, which perfectly reflects the surrounding green forest and the mountain peaks above. The overall scene is peaceful and natural.

LIGHTHOUSE LABS

HIKING TRAIL RECOMMENDER SYSTEM

Robyn Mundle