



# GRADIENT ASCENT

Are we there yet?



# WHAT?

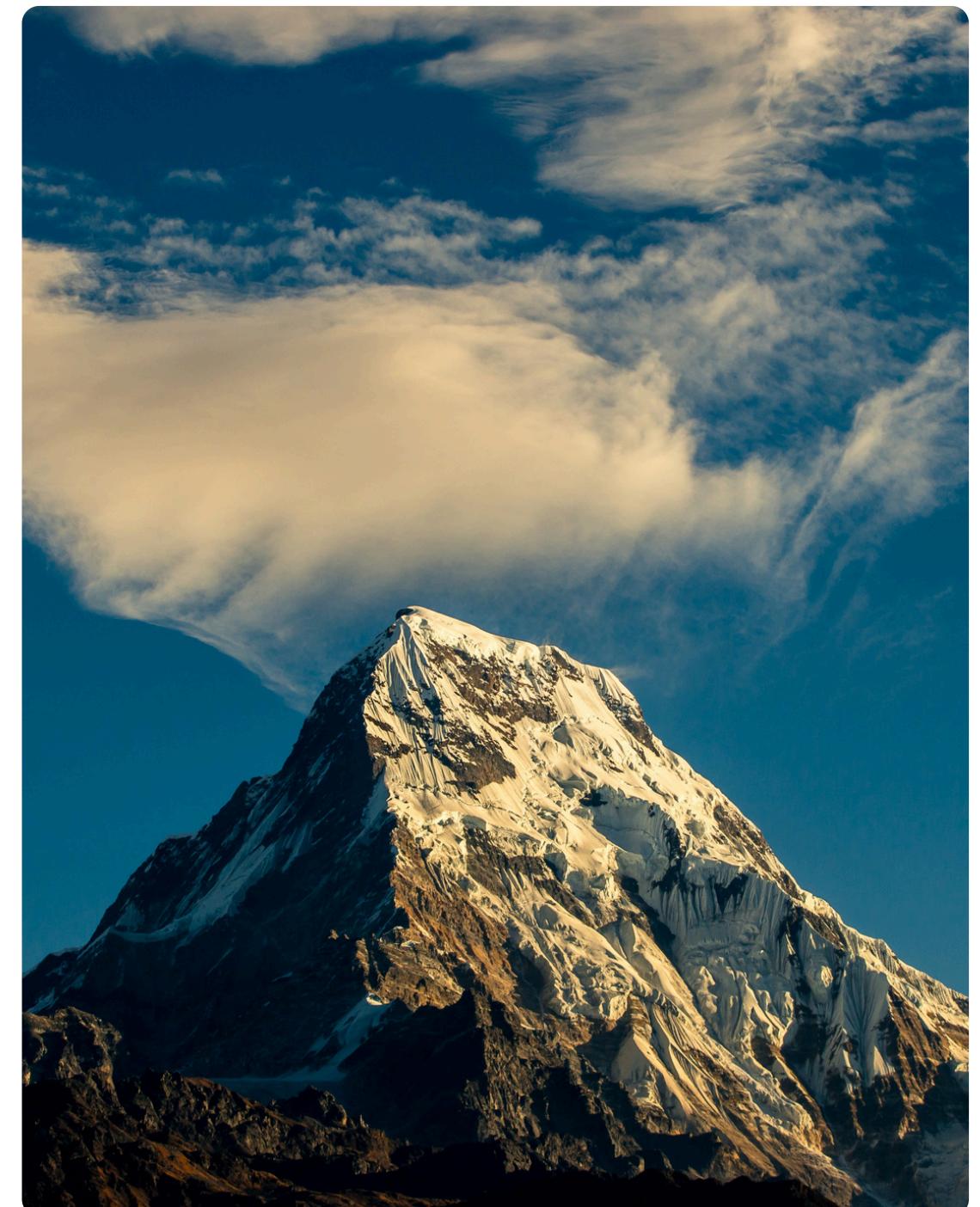
## What Makes Mountains Special?

Mountains are Adventure Destinations

⌚ Predict Time to Completion for a selected hike

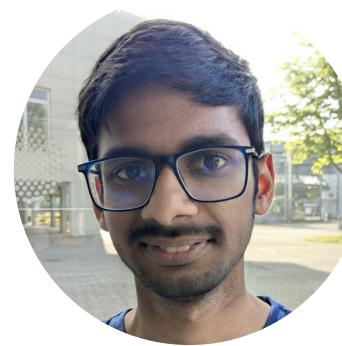
🚶♂️ Get Recommendations of similar hikes based on elevation & distance

⚠️ Rate Hike Difficulty





# WHO? THE ASCENDERS



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# WHY?



**To quantize difficulty for hikers**



**Provide assistance in estimating completion time**



**To make hiking smarter, safer, and smoother**



**The Himalayas**



**The Andes**



**The Rockies**



**The Alps**



# HOW?

GPS recorded hikes from hikr.org

~12000 GPX files and associated meta data of mountain hikes

## Logistic Regression:

Classifies hikes as Easy / Moderate / Difficult based on elevation, slope, and distance

## K-Means Clustering:

Groups hikes with similar terrain and altitude profiles for recommendations

## Linear Regression:

Predicts Estimated Time to Completion using distance, elevation gain/loss, and pace



**THANK YOU!**