



Gradient Ascent

# GRADIENT ASCENT

Are we there yet?



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# WHAT?

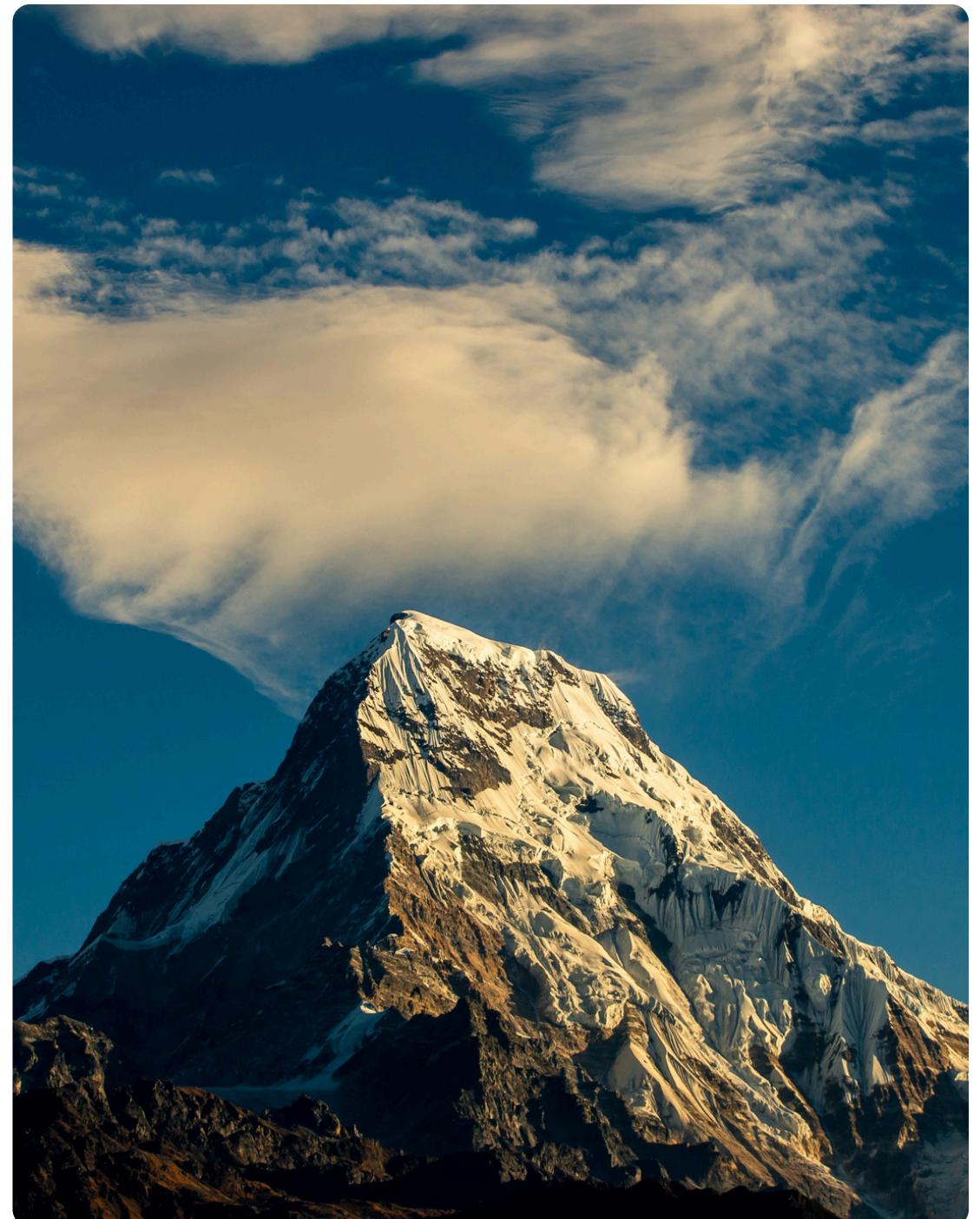
## What Makes Mountains Special?

Mountains are Adventure Destinations

⌚ Predict Time to Completion for a selected hike

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

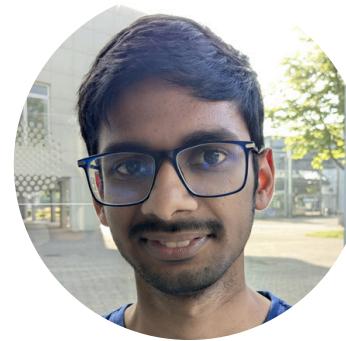
⚠️ Rate Hike Difficulty





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# WHO? THE ASCENDERS



**Amogh**

M.Sc Information Technology



**Priyansh**

M.Sc Information Technology



**Shashank**

M.Sc Information Technology



**Souvik**

M.Sc Information Technology



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# WHY?



**To quantize difficulty for hikers**



**Provide assistance in estimating completion time**



**We 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



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**THANK YOU!**