

# The Adventure of Gradient Descent: Finding the Treasure on Math Mountain!

An exciting journey into the world of Deep Learning!



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# Welcome to Math Mountain!



- A treasure chest is hidden at the bottom.
- But the mountain is covered in fog!
- Gradient Descent will guide us down.



# The Story of Math Mountain

- The mountain is like a giant slide.
- The fog represents mistakes or errors.
- Our goal: Reach the treasure at the bottom!



Caption



# Meet Gradient Descent!

- Step 1: Look around (find the slope).
- Step 2: Take small steps (learning rate).
- Step 3: Keep going until you find the treasure.





## WHY IS GRADIENT DESCENT IMPORTANT?

- Helps computers learn quickly and efficiently.
- Used in face recognition, self-driving cars, and more!
- It's the secret sauce of Deep Learning!
- Face Recognition: "Gradient Descent helps computers learn to recognize your face!"
- Self-Driving Cars: "It helps cars learn to drive safely on their own!"
- Video Games: "It helps game characters learn how to beat levels!"



# Mission Accomplished!



- "You've learned how Gradient Descent works!"

- "It's a key tool in Deep Learning."

- "Who knows? Maybe you'll use it to build amazing AI projects one day!"

# References

- "Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep Learning*. MIT Press."
- "Gradient Descent Explained. Towards Data Science."
- "What is Gradient Descent? IBM Cloud Learn Hub."

