KIDS & TEENS FREELANCING TRAINING INSTITUTE

Deep Learning Course Outline

Module 1: What is Deep Learning?

- Simple definition: Deep learning is how computers learn like our brain
- It uses layers (like our brain's neurons) to solve tough problems
- Real-life example: Teaching a robot to recognize your face
- Activity: Draw what a "smart brain computer" might look like

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Module 2: How Deep Learning Works

- Uses neural networks to find patterns in data
- Layers of learning: input, hidden, and output layers
- Real-life example: Like layers of a cake processing ingredients
- Activity: Match layers to what they do (see, think, decide)

Module 3: Deep Learning in Daily Life

- Facial recognition, self-driving cars, smart assistants
- Real-life example: How Netflix recommends shows
- Fun fact: Deep learning even helps doctors spot diseases
- Activity: List 3 cool things around you that might use deep learning

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Module 4: Neural Networks in Action

- How data moves through a network
- Supervised vs. unsupervised learning
- Real-life example: Learning to sort apples from oranges
- Activity: Use colored blocks to simulate a mini neural net

Module 5: Training and Improving the Model

- What is training data and how AI learns
- Importance of good data and avoiding mistakes (bias)
- Real-life example: Teaching AI to play a game better over time
- Activity: Create a simple "AI learner" game using yes/no answers

Module 6: Challenges and Limits of Deep Learning

- Needs a lot of data and power
- Can make mistakes if trained poorly
- Real-life example: AI recognizing a banana as a toaster!
- Activity: Spot the wrong results and explain why they happened

Module 7: Deep Learning in the Real World

- In healthcare, security, robotics, and entertainment
- Real-life example: Deep learning in voice assistants like Alexa
- Fun story: AI creating music or painting pictures
- Activity: Imagine an AI that could help in your daily routine

Module 8: The Future of Deep Learning Careers

- Jobs: AI Engineer, Data Scientist, ML Researcher
- Skills: math, coding, curiosity, and problem-solving
- Real-life example: Kids today, AI creators tomorrow!
- Activity: Draw your dream AI project and what it could do

Bonus Materials

- Deep learning concept cards
- Beginner-friendly neural network diagram
- Mini quiz: real vs. fake AI facts
- Career path map in AI
- Certificate of Completion for Deep Learning