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**Marks** 15.00/20.00

**Grade** **75.00** out of 100.00

### Question 1

Complete

Mark 0.00 out of 1.00

Claude models are designed by Anthropic with a focus on:

- a. Vision-language learning
- b. Code generation only
- c. Safety, helpfulness, and harmlessness
- d. Reinforcement learning optimization

### Question 2

Complete

Mark 1.00 out of 1.00

GitHub Copilot integrates most deeply with which IDE?

- a. Eclipse
- b. IntelliJ
- c. PyCharm
- d. VS Code

### Question 3

Complete

Mark 0.00 out of 1.00

GitHub Copilot is primarily powered by which model?

- a. Codex
- b. Claude Instant
- c. GPT-3.5
- d. Llama 2

**Question 4**

Complete

Mark 1.00 out of 1.00

In neural networks, ReLU activation is preferred over Sigmoid because:

- a. It's linear and always differentiable
- b. It uses softmax normalization
- c. It's nonlinear and avoids vanishing gradients
- d. It produces binary output

**Question 5**

Complete

Mark 1.00 out of 1.00

The architecture behind GPT and Claude is based on:

- a. Autoencoders
- b. RNNs
- c. Transformers
- d. CNNs

**Question 6**

Complete

Mark 1.00 out of 1.00

The gradient descent algorithm minimizes which function?

- a. Learning rate
- b. Cost or loss function
- c. Regularization term
- d. Activation function

**Question 7**

Complete

Mark 0.00 out of 1.00

What distinguishes OpenAI GPT models from Anthropic Claude?

- a. Claude is rule-based
- b. Claude emphasizes constitutional AI for safer responses
- c. GPTs use diffusion models
- d. GPTs use smaller context windows

**Question 8**

Complete

Mark 1.00 out of 1.00

What does the term embedding refer to in modern AI?

- a. Compressing datasets
- b. Creating new hidden layers
- c. Storing models in memory
- d. Representing words or data as continuous numeric vectors

**Question 9**

Complete

Mark 1.00 out of 1.00

What is a system prompt in LLM usage (like OpenAI's API)?

- a. Batch loader
- b. The initial instruction defining model behavior
- c. A shell command for API setup
- d. Token encoder

**Question 10**

Complete

Mark 1.00 out of 1.00

What is overfitting in ML?

- a. When there are too many features in the dataset
- b. When the model memorizes training data and fails to generalize
- c. When the model fits unseen data better than training data
- d. When model training takes too long

**Question 11**

Complete

Mark 1.00 out of 1.00

What is the role of tokenization in LLMs?

- a. Generating embeddings
- b. Splitting text into smaller subunits for processing
- c. Reducing overfitting
- d. Encrypting data

**Question 12**

Complete

Mark 1.00 out of 1.00

What is transfer learning?

- a. Transferring models between GPUs
- b. Using a pre-trained model for a new but related task
- c. Sharing weights between layers
- d. Re-training from scratch using same data

**Question 13**

Complete

Mark 1.00 out of 1.00

Which fine-tuning technique aligns LLM responses with human preferences?

- a. Unsupervised pretraining
- b. Transfer learning
- c. Regularization
- d. RLHF (Reinforcement Learning from Human Feedback)

**Question 14**

Complete

Mark 1.00 out of 1.00

Which of the following best describes "context window" in an LLM?

- a. Batch size
- b. Number of layers in model
- c. GPU memory used
- d. Amount of tokens model can process at once

**Question 15**

Complete

Mark 1.00 out of 1.00

Which of the following best describes the difference between AI and ML?

- a. Both are identical fields
- b. ML is broader than AI
- c. ML is a subset of AI
- d. AI is a subset of ML

**Question 16**

Complete

Mark 0.00 out of 1.00

Which of the following is NOT a likely limitation of AI coding assistants like Copilot?

- a. Dependency on context quality
- b. Guaranteed correctness
- c. Code suggestion errors
- d. Security vulnerability propagation

**Question 17**

Complete

Mark 1.00 out of 1.00

Which of the following models is primarily unsupervised?

- a. Random Forest
- b. Decision Trees
- c. Logistic Regression
- d. K-Means Clustering

**Question 18**

Complete

Mark 1.00 out of 1.00

Which of the following OpenAI models is multimodal (supports image and text)?

- a. DALL-E 2
- b. GPT-4o
- c. Codex
- d. GPT-3

**Question 19**

Complete

Mark 1.00 out of 1.00

Which of the following techniques enables LLMs to attend to different words contextually?

- a. Recurrent feedback
- b. Convolution
- c. Self-attention
- d. Reinforcement learning

**Question 20**

Complete

Mark 0.00 out of 1.00

Why do LLMs often hallucinate?

- a. They lack mathematical grounding
- b. They overfit on large datasets
- c. They have insufficient training data
- d. They predict likely text without factual verification