Artificial intelligence

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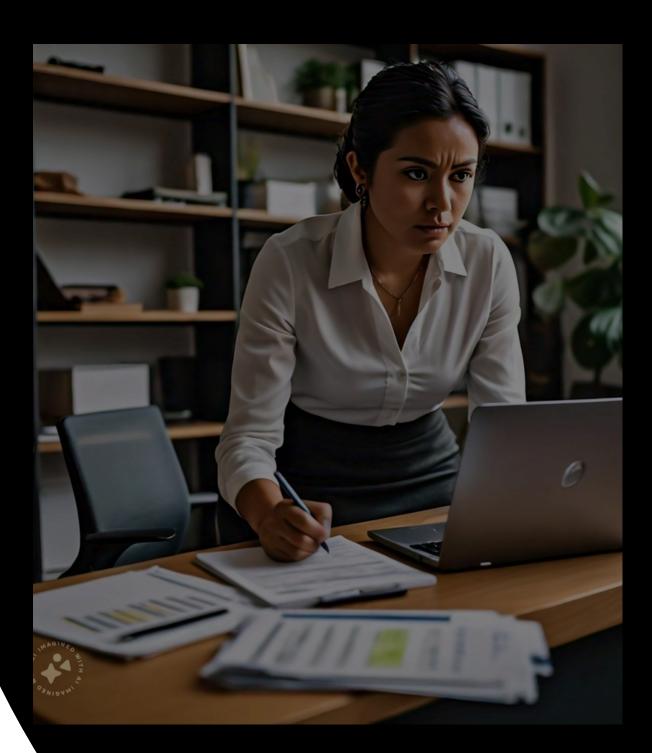**TECH TEACH**
EDUCATIONALSOLUTIO

OUR MISSION :

"Our mission is to empower learners worldwide through innovative technology, personalized learning experiences, and accessible educational resources. We strive to cultivate a community where every individual can achieve their full potential, regardless of their background or circumstances."

OUR VALUES :

"To pioneer the future of education by leveraging cutting-edge technology to make learning more engaging, effective, and inclusive. We envision a world where education transcends boundaries, creating opportunities for lifelong learning and fostering a society enriched by knowledge and creativity."

COURSE CURRICULUM:

Week 1: Introduction to AI and Python Programming
- Day 1-2: Introduction to Artificial Intelligence
  - History and evolution of AI
  - AI applications in various industries
  - Types of AI: Narrow AI, General AI, and Superintelligent AI
- Day 3-4: Python for AI
  - Python basics: Syntax, data structures, and control flow
  - Essential libraries: NumPy, Pandas, Matplotlib
- Day 5: Introduction to Jupyter Notebooks and Colab
  - Setting up and using Jupyter Notebooks
  - Introduction to Google Colab

COURSE CURRICULUM:

Week 2: Data Handling and Preprocessing
- Day 6-7: Data Collection and Cleaning
  - Handling missing values
  - Data normalization and scaling
  - Data augmentation techniques
- Day 8-9: Exploratory Data Analysis (EDA)
  - Data visualization techniques
  - Descriptive statistics
  - Correlation and causation
- Day 10: Feature Engineering
  - Creating new features
  - Feature selection techniques
  - Dimensionality reduction

COURSE CURRICULUM:

Week 3: Machine Learning Basics
- Day 11-12: Supervised Learning
  - Linear Regression
  - Logistic Regression
  - Decision Trees and Random Forests
- Day 13-14: Unsupervised Learning
  - k-Means Clustering
  - Hierarchical Clustering
  - Principal Component Analysis (PCA)
- Day 15: Model Evaluation and Validation
  - Train-test split
  - Cross-validation
  - Evaluation metrics: Accuracy, Precision, Recall, F1-Score

COURSE CURRICULUM:

Week 4: Neural Networks and Deep Learning
- Day 16-17: Introduction to Neural Networks
  - Perceptron and Multi-Layer Perceptron
  - Activation functions
  - Backpropagation and gradient descent
- Day 18-19: Deep Learning Frameworks
  - Introduction to TensorFlow and Keras
  - Building simple neural networks
- Day 20: Convolutional Neural Networks (CNNs)
  - CNN architecture and layers
  - Image classification with CNNs

COURSE CURRICULUM:

Week 5: Advanced Deep Learning
- Day 21-22: Recurrent Neural Networks (RNNs)
  - RNN architecture
  - Long Short-Term Memory (LSTM) networks
  - Applications of RNNs in sequence prediction
- Day 23-24: Generative Models
  - Autoencoders
  - Generative Adversarial Networks (GANs)
  - Applications of generative models
- Day 25: Transfer Learning
  - Concept and benefits of transfer learning
  - Implementing transfer learning with pre-trained models

COURSE CURRICULUM:

Week 6: Natural Language Processing (NLP)
- Day 26-27: Introduction to NLP
  - Text preprocessing techniques
  - Tokenization, stemming, and lemmatization
- Day 28-29: NLP Techniques and Models
  - Bag-of-Words and TF-IDF
  - Word embeddings: Word2Vec, GloVe
  - Transformer models: BERT, GPT
- Day 30: NLP Applications
  - Sentiment analysis
  - Named entity recognition
  - Text generation

COURSE CURRICULUM:

Week 7: Reinforcement Learning and AI Ethics
- Day 31-32: Introduction to Reinforcement Learning (RL)
  - RL basics: Agent, environment, states, actions, rewards
  - Q-Learning and Deep Q-Networks (DQNs)
- Day 33-34: Advanced RL Algorithms
  - Policy gradients
  - Actor-Critic methods
  - Applications of RL
- Day 35: Ethics in AI
  - Bias and fairness in AI
  - AI and privacy concerns
  - AI in decision making

COURSE CURRICULUM:

Week 8: Capstone Project and Presentation
- Day 36-37: Project Planning and Dataset Selection
  - Define project goals
  - Select and understand the dataset
- Day 38-40: Model Development and Training
  - Implement chosen models
  - Perform EDA and preprocessing
- Day 41-42: Model Evaluation and Optimization
  - Evaluate model performance
  - Tune hyperparameters
- Day 43-44: Project Report Writing
  - Document the methodology, results, and conclusions
- Day 45: Final Presentation and Feedback
  - Present the project to peers/mentors
  - Receive feedback and discuss improvements

Our Partners Company's

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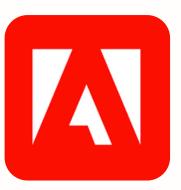FOR SUPPORT

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THANK YOU

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