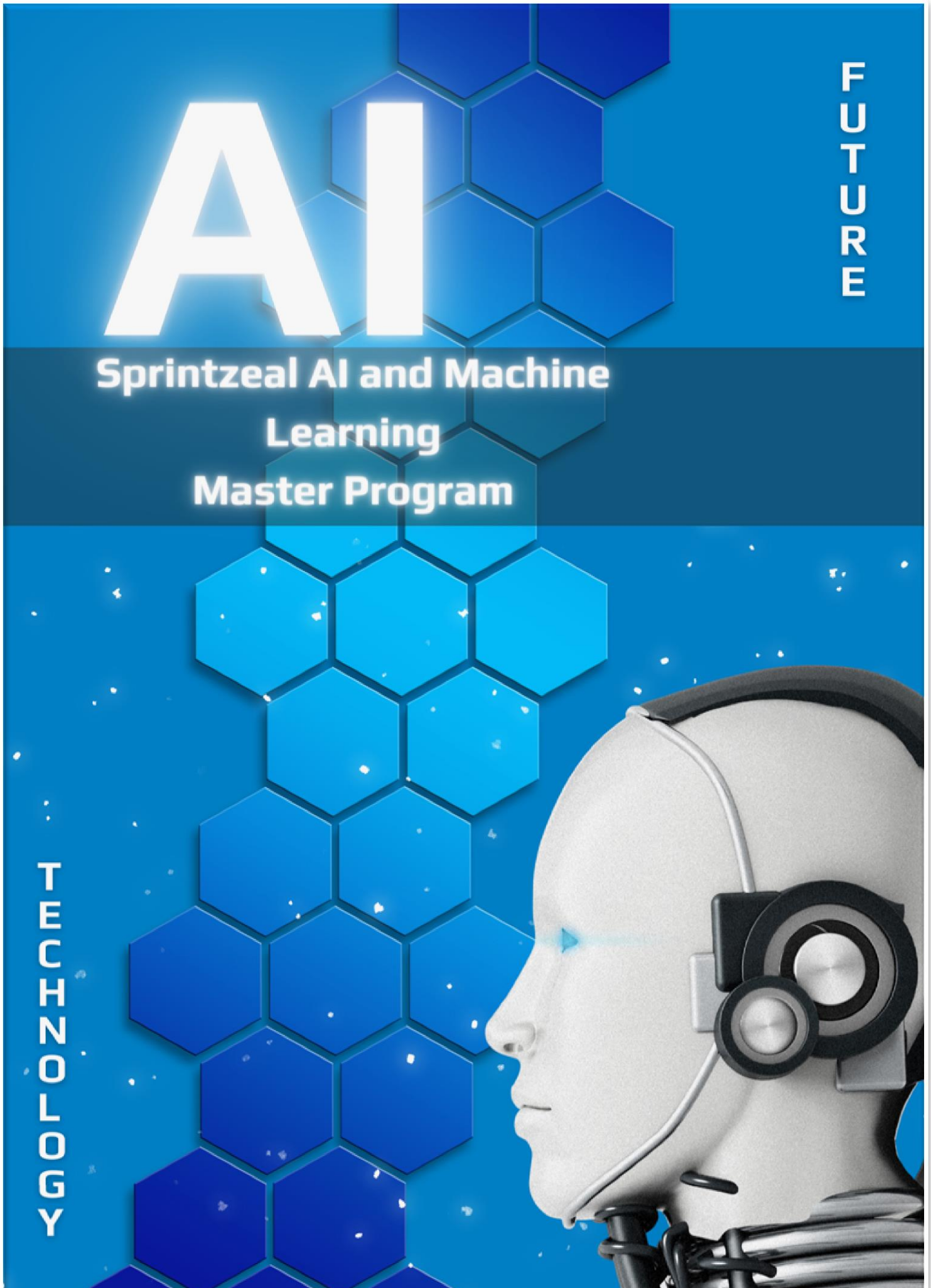
SPRINTZEAL
Empowering Professionals



Sprintzeal AI and Machine Learning Master Program

Our **AI and Machine Learning Master Program** is an immersive educational journey that equips participants with a profound understanding of artificial intelligence (AI) and machine learning (ML) principles. This comprehensive program is meticulously crafted to empower participants with the skills and knowledge required to excel in the rapidly evolving landscape of AI and ML.

This **64-hour Expert Led Master Program** is designed for aspiring data scientists, AI engineers, researchers, and professionals looking to harness the potential of AI and ML technologies. Over the course of the program, you will delve into the foundational concepts of AI and ML, gaining hands-on experience with cutting-edge tools and techniques used in the industry.

Day 1: Introduction to AI & ML

Hour 1-2: AI vs ML vs Deep Learning: Definitions and Differences

Hour 2-3: Importance and Applications of AI & ML

Hour 3-4: Setting up the Environment (Python, Jupyter Notebook, Libraries)

Hour 4-8: Python Refresher: Essential Libraries for ML (NumPy, pandas)

Day 2: Supervised Learning - Basics

Hour 1-2: Introduction to Supervised Learning

Hour 2-3: Linear Regression

Hour 3-6: Logistic Regression, Naive Bayes, KNN

Hour 6-8: Hands-on: Building & Evaluating Regression Models

Day 3: Supervised Learning - Advanced

Hour 1-2: Decision Trees and Random Forests

Hour 2-3: Support Vector Machines (SVM)

Hour 3-6: Ensemble Methods: Boosting, Bagging

Hour 6-8: Hands-on: Classification Problems & Model Evaluation

Day 4: Unsupervised Learning

Hour 1-2: Introduction to Unsupervised Learning

Hour 2-4: Clustering: K-means, Hierarchical

Hour 4-6: Dimensionality Reduction: PCA, t-SNE

Hour 6-8: Hands-on: Clustering and Visualization

Day 5: Neural Networks and Deep Learning - Basics

Hour 1-2: Introduction to Neural Networks

Hour 2-3: Forward and Backward Propagation

Hour 3-4: Activation Functions, Loss Functions

Hour 4-8: Hands-on: Building a Basic Neural Network with TensorFlow/Keras

Day 6: Convolutional Neural Networks (CNNs)

Hour 1-2: Introduction to CNNs

Hour 2-3: Image Classification and Feature Learning

Hour 3-4: Pooling, Flattening, and Full Connection

Hour 4-8: Hands-on: Image Recognition Tasks with CNNs

Day 7: Recurrent Neural Networks (RNNs) and Natural Language Processing

Hour 1-2: Introduction to RNNs and LSTM

Hour 2-5: Basics of Natural Language Processing (Tokenization, Embedding, TfIdf, Bag of Words)

Hour 5-6: Sequence Models and Attention Mechanism

Hour 6-8: Hands-on: Text Generation and Sentiment Analysis

Day 8: Dive into Large Language Models (LLMs)

Hour 1-2: Introduction to LLMs

Overview of LLMs and their significance.

Evolution: From RNNs to Transformers.

The architecture of Transformer models.

Hour 2-3: Inner Workings of GPT-style Models

Attention mechanisms: Self-attention and Multi-head attention.

Positional encodings and embeddings.

Model depth and width considerations.

Hour 3-4: Training and Fine-tuning LLMs

Overview of the training process: Datasets, tokenization, and costs.

Transfer learning and fine-tuning on specific tasks.

Challenges in training LLMs: Avoiding overfitting, handling biases

Hour 4-5: Practical Applications of LLMs

Natural language understanding and generation.

Code generation and assistance.

Creative writing, art, and beyond.

Hour 5-6: Ethical Considerations and Limitations

LLMs and biases: Origins and implications.

Ethical challenges in deploying LLMs.

The current state of research on making LLMs safer.

Hour 6-7: Hands-on Session: Using Pre-trained LLMs

Setting up and using models from Hugging Face's Transformers library.

Generating text, answering questions, and more using GPT-style models.

Fine-tuning an LLM on a custom dataset.

Hour 7-8: Advanced Topics & Wrap-up

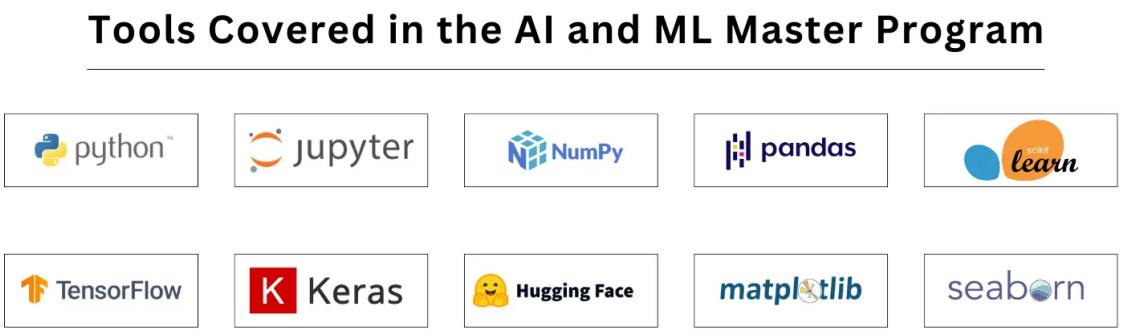
Zero-shot, few-shot, and many-shot learning with LLMs.

The future of LLMs: GPT-4 and beyond.

Recap, open discussion, and Q&A.

Tools Covered in the AI and ML Master Program

- Python
- Jupyter Notebook
- NumPy
- pandas
- scikit-learn
- TensorFlow
- Keras
- Hugging Face's Transformers
- Matplotlib
- Seaborn



Capstone Project:

- Participants will work on a real-world AI/ML project, applying concepts learned throughout the program.
- Mentoring and guidance will be provided by instructors.

Certification and Recognition:

Upon successful completion of the program, participants will receive a certification in AI and Machine Learning from Sprintzeal.

Elevate your Career with Sprintzeal's AI and Machine Learning Master Program

Our AI and Machine Learning Master Program is designed to empower you with the skills and knowledge required to thrive in this dynamic landscape. By enrolling in this program, you gain access to:

Leading-edge Curriculum: Our program offers an industry-based curriculum covering the spectrum of AI and machine learning. You'll gain hands-on expertise with the latest tools and techniques.
Career Growth: The program positions you for thriving careers in high-demand fields like data science, AI engineering, and machine learning.
Practical Experience: Work on real-world projects and develop problem-solving skills that set you apart. Your capstone project showcases your abilities to potential employers.
Expert Guidance: Learn from seasoned AI professionals who provide personalized mentorship and insights into industry trends.
Networking Opportunities: Connect, collaborate, and open doors to valuable industry relationships.
Certification: Upon program completion, receive a certification demonstrating your mastery of AI and machine learning concepts.

For Schedules and Queries:

Reach us at support@sprintzeal.com

Visit Page : https://www.sprintzeal.com/course/artificial-intelligence-certification-training

********** Thank You **********