GTC Transforming Emerging Economies

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Deep Learning Specialization

COURSE OVERVIEW

This course teaches the core concepts and hands-on skills to build, train, and deploy deep neural networks. Participants will work with CNNs, RNNs, and Transformers using TensorFlow and PyTorch. Topics include backpropagation, optimization, regularization, and hyperparameter tuning. Participants will apply deep learning to images, text, and sequence data. The course prepares participants to solve real-world AI problems and build scalable models.

WHO SHOULD ATTEND?

This course is designed for data scientists, AI engineers, machine learning practitioners, software developers, and technical professionals who want to specialize in deep learning. It is important for researchers and graduate students seeking practical and theoretical expertise in neural networks. A solid understanding of Python and basic machine learning concepts is recommended.

COURSE OUTCOMES

Delegates will gain the knowledge and skills to:

- Understand the foundations of deep neural networks.
- Implement and train CNNs, RNNs, and Transformers for various tasks.
- Apply best practices in regularization, optimization, and tuning.
- Build models for computer vision, natural language processing, and time-series forecasting.
- Evaluate and improve model performance using advanced techniques.
- Work with TensorFlow and PyTorch to develop deep learning projects.
- Deploy deep learning models in real-world applications.
- Analyze and interpret model behavior and outputs.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Fundamentals of deep learning and neural network architectures.
- Building and training CNNs for image recognition.
- Applying RNNs and LSTMs for sequence modeling.
- Exploring Transformers and attention mechanisms.
- Hyperparameter tuning and regularization methods.
- Advanced optimization techniques (Adam, RMSprop, etc.).
- Practical implementation using TensorFlow and PyTorch.
- Model deployment strategies.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.
1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded