GTC Transforming Emerging Economies

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Deep Learning Specialization (Neural Networks & Applications)

COURSE OVERVIEW

This course offers a solid foundation in deep learning principles, techniques, and applications. It covers core architectures such as feedforward networks, CNNs, RNNs, and transformers, along with optimization and regularization methods. Participants will learn to design, train, and optimize neural networks to solve real-world problems. Using TensorFlow and PyTorch, participants will also gain hands-on experience through case studies and projects, building practical skills to develop AI-driven solutions across different domains.

WHO SHOULD ATTEND?

This specialization is designed for data scientists, machine learning engineers, software developers, researchers, and professionals seeking to expand their expertise in artificial intelligence. It is equally valuable for business and technology leaders who want to understand the strategic impact of deep learning in industries such as healthcare, finance, manufacturing, retail, and autonomous systems. A basic background in programming, linear algebra, and machine learning concepts is recommended.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Understand and apply the core principles of neural networks and deep learning.
- Build and train advanced models such as CNNs, RNNs, and transformers for real-world applications.
- Implement deep learning solutions using industry standard frameworks like TensorFlow and PyTorch.
- Optimize models for performance, scalability, and deployment in production environments.
- Critically evaluate deep learning research and adapt techniques to domain-specific problems.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- How to build and train deep neural networks for real-world applications.
- Why best practices in training, tuning, and regularization improve model performance.
- How to structure, manage, and scale successful machine learning projects.
- When to apply convolutional neural networks (CNNs) for computer vision tasks.
- How to design and implement RNNs, LSTMs, and GRUs for sequence modelling.
- Why advanced NLP techniques like attention and transformers enhance text understanding.

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