GTC Transforming Emerging Economies

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Deep Learning for Image Classification and Object Detection

COURSE OVERVIEW

This course provides a practical introduction to deep learning techniques used in image classification and object detection. It covers key concepts such as transfer learning, image annotation, and model evaluation using popular frameworks like TensorFlow and Keras. Participants will learn how to build, train, and deploy convolutional neural networks (CNNs) for visual recognition tasks. Through practical projects, participants will develop the skills needed to apply deep learning to real-world image and video analysis challenges.

WHO SHOULD ATTEND?

This course is designed for AI engineers, data scientists, computer vision specialists, software developers, and technical professionals who want to apply deep learning to visual recognition problems. It is also suitable for researchers and students with a foundational understanding of Python and machine learning who wish to expand their knowledge in computer vision.

COURSE OUTCOMES

Delegates will gain the knowledge and skills to:

- Learn the role of deep learning in solving image classification and object detection problems.
- Build and train convolutional neural networks (CNNs) using TensorFlow or Keras.
- Use transfer learning techniques to enhance model accuracy.
- Prepare and annotate image datasets for model training.
- Measure, evaluate, and fine-tune model performance.
- Deploy deep learning models for real-world visual recognition tasks.
- Incorporate trained models into end-to-end computer vision solutions.
- Tackle real-life image recognition challenges across different sectors.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- An overview of deep learning and convolutional neural networks.
- Image preprocessing and augmentation techniques.
- Building CNNs for image classification tasks.
- Object detection with YOLO, SSD, and Faster R-CNN.
- Transfer learning with pre-trained models (e.g., ResNet, MobileNet).
- Model evaluation, tuning, and optimization.
- How to use TensorFlow and Keras for model development.
- Real-world projects in facial recognition, vehicle detection, etc.
- Deployment strategies for deep learning models.
- Ethical considerations in computer vision applications.

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