

Time: 01:15 Hrs. for every session.

## **MATLAB for New Users**

Join us as we introduce MATLAB, the easiest and most productive software for engineers and scientists. Whether you're analyzing data, developing algorithms, or creating models, MATLAB provides an environment that invites exploration and discovery.

MATLAB includes a high-level language, built-in mathematical functions fundamental to solving engineering and scientific problems, and an interactive environment ideal for iterative exploration, design, and problem solving. Through product demonstrations, you will see how this combination allows you to quickly explore ideas, gain insight into your data, and document and share your results.

- Brief History of MATLAB
- Introduction to MATLAB
- Demo: Fuel Economy Analysis
  - Introduction to MATLAB environment
  - Building analysis routines
  - Creating documentation
  - Building applications
- Summary/Q&A

## **Machine Learning with MATLAB**

Learn how to get started using machine learning tools to detect patterns and build predictive models from your datasets. In this webinar, you will learn about several machine learning techniques available in MATLAB and how to quickly explore your data, evaluate machine learning algorithms, compare the results, and apply the best machine learning for your problem.

- What is Machine Learning?
- Types of Machine Learning
  - Supervised
  - Unsupervised
- Machine Learning Workflow
- Demo: Train a model to predict Diabetes
- Demo: Time series forecasting
- Summary/Q&A

## **Deep Learning with MATLAB**

Deep learning often seems inaccessible to non-experts. In this session, you'll see how MATLAB® makes it easy for engineers and scientists to apply deep learning to their problems. What is Deep Learning?

- Features available for Deep Learning
- Using apps for Deep Learning data pre-processing
- Deep Network Designing
- Transfer Learning for Deep learning models
- Summary/Q&A

## **Image Processing & Computer Vision made easy with MATLAB**

In this webinar, you will learn how to use computer vision algorithms to solve real world imaging problems. Computer vision uses images and video to detect, classify, and track objects or events in order to understand a real-world scene.

Cameras are everywhere, even in your phone. You might have a new idea for using your camera in an engineering and scientific application, but have no idea where to start. While image processing can seem like a black art, there are a few key workflows to learn that will get you started.

- Image enhancement – removing noise and sharpening an image
- Image segmentation – isolating objects of interest and gathering statistics
- Image registration – aligning multiple images from different camera sources
- Find moving objects in video
- Analyze the motion of objects
- Summary/Q&As