

# MATLAB for Signal, Image, and Data Analysis

Course Duration: 02 days

## Course Outcomes:

- How signals, images, and data are represented and manipulated in MATLAB
- Methods for data visualization, including high dimensional datasets in MATLAB
- Apply machine learning methods for data classification and prediction in MATLAB
- Signal frequency analysis and image processing methods in MATLAB

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## Module 01: Introduction to Course

- Overview of MATLAB
- Importance of understanding signal, image, and data representation

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## Module 02: Signal, Image, and Data Representation in MATLAB

- Introduction to signal, image, and data representation
- Manipulation techniques in MATLAB

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## Module 03: Data Visualization in MATLAB

- Importance of data visualization
- Handling high-dimensional datasets in MATLAB
- Visualization methods in MATLAB

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## Module 04: Machine Learning Methods in MATLAB

- Introduction to machine learning
- Data classification and prediction using MATLAB
- Application of machine learning methods in MATLAB

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## Module 05: Signal Frequency Analysis in MATLAB

- Understanding signal frequency analysis
- Essential methods for signal frequency analysis in MATLAB

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## Module 06: Image Processing in MATLAB

- Introduction to image processing
- Image processing techniques in MATLAB