Welcome to ineuron.ai

Matlab Basic to Advance

Description:

MATLAB(matrix laboratory) is a multi-paradigm numerical computing environment and fourth-generation programming language which is used by engineering and science students. In this course, we will start learning MATLAB from a beginner level, and will gradually move into more technical and advanced topics. This course is designed to be general in scope which means that it will be beneficial to students in any major. Once, passed a certain learning threshold, you will definitely enjoy MATLAB Programming. The key benefit of MATLAB is that it makes the programming available to everyone and is very fast to turn ideas into working products compared to some of the conventional programming languages such as Java, C, C++, visual basic, and others.

Start Date:

Doubt Clear Time:

Course Time:

Features:

Course material

Course resources

On demand recorded videos

Practical exercises

Quizzes

Assignments

Course completion certificate

What we learn:

MATLAB Graphical User Interface

Operations on matrices

Interacting with MATLAB and Graphics

Structures and Map Containers

Requirements:

System with Internet Connection

Interest to learn

Dedication

Instructor:

>Course & Instructor Introduction:

>> Introduction to course

>> MATLAB Software Pricing and Online resources

>> MATLAB Graphical User Interface

>> Some Common Operations

>Handling Variables and Creating Scripts:

>>Let's lay foundations for understanding variables

>>Different types of variables Strings characters and logical

>> Creating scripts and understanding commenting and semicolon effect

>> Data selection with the colon operator

>Doing Basic Maths in MATLAB:

>> Basic Maths addition multiplication subtraction and powers

>> Understanding operation precedence

>> Computing GCD LCM Permutations and Prime numbers

>> Trignometric functions

>> Set operations Union intersection complement and others

>> Computing statistics of the matrices

>> Handling random numbers

>> Cross and dot product

>> Basic logical operation And, Or and Not

>> Sign and absolute functions

>> Converting numbers between different bases

>> Discretizing your data

>Operations on matrices:

>> Determining unique elements

>> Determining membership of elements to a matrix

>> Shifting matrix elements

>> Determinant inverse and diagonal elements

>> Relational operations

>> Commonly used Matrices

>> Sorting matrix values

>> Size and length functions

>> Concatenating matrices

>> Finding non-zero elements

>> Frequencies of values within a vector

>Advance Math Functions with Symbolic Data Type:

>> Symbolic variables

>> Differentiation and integration using symbolic variables

>> Solving equations

>> Symbolic Functions

>Interacting with MATLAB and Graphics:

>> Input output commands

>> More input-output commands

>> Plotting Data

>> Plotting 3-D data

>> More on plotting options

>> Combining plots with hold on

>> Interacting with the plot using the brush tool

>> Creating plots with two y-axes

>> Animated line

>> Bar graphs

>> checking for the existence of files scripts folders functions or class

>> Manipulating Directory Part 1

>> Manipulating Directory Part 2

>> Processing a text file

>Importing data into matlab:

>> Importing data from excel to matlab

>> Importing data in different formats

>> Spread Sheet link Introduction and installation

>> Passing data between excel and MATLAB

>> Calling MATLAB functions from Excel

>MATLAB Programming:

>> Conditional if Statements Part 1

>> Conditional if Statements Part 2

>> For loops for iterating through your code

>> Nested For loops

>> While loops when you don't know the number of iterations

>> Breaking out from a loop before final condition

>> Continue statement for skipping iterations

>> Switching statements for selecting between options

>Making your own functions:

>> Creating custom build functions

>> Functions with inputs

>> Functions with multiple inputs and outputs

>> Returning from a function

>Sharing your MATLAB Results:

>> Sharing results with automatically generated reports

>> Sharing your results with live script

>Cell Data Type:

>>Creating and defining Cells

>>Accessing Data in a Cells

>>Adding and deleting elements from a cell

>>Concatenating Cells and Passing Cell Contents to a Function

>Tables and Time Tables:

>> Creating Tables

>> Adding Descriptions Units and Accessing individual columns

>> Selecting and reordering rows and columns

>> Sorting rows of a table

>> Setting Different Properties of the Table

>> Reading and Writing Tables into memory

>> Storing summary of a table

>> Adding and deleting rows from a table

>> Adding and deleting columns

>> Dealing with Missing Data

>> Creating Time tables

>> Properties Sorting and data selection in time tables

>> Concatenating timetables

>> Indexing and retrieving data based on row time

>Structures and Map Containers:

>> Creating Structures

>> Retrieving data from a field of a structure

>>Concatenating structures

>> Storing data from a structure field in a variable

>>More operations on structures

>> Creating Map Containers

>> Concatenation and more operations on containers Map Containers

>Data Type Conversion:

>>Conversion from other data types to cell

>> Conversion from Cell to other data types

>> Conversion from other data types to table

>> Conversion from other to table data type