Onramp Resources

Below are optional resources that you can use in your Onramp party to engage the audience and showcase MATLAB. It is suggested that you take time to look at these resources that way you may become familiar with these topics before presenting.

# MATLAB

* [What Will You Do with MATLAB](https://www.mathworks.com/videos/what-will-you-do-with-matlab-101087.html)
* [How to write a MATLAB Program](https://www.mathworks.com/videos/writing-a-matlab-program-69023.html?s_tid=srchtitle_how%20to%20write%20matlab%20program_1)
* [MATLAB for Data Analytics](https://www.mathworks.com/videos/matlab-for-data-analytics-1525861909298.html?s_tid=srchtitle_for%20data%20analytics_1)

# Deep Learning

* [What Is Deep Learning?](https://www.mathworks.com/videos/introduction-to-deep-learning-what-is-deep-learning--1489502328819.html?s_tid=srchtitle_what%20is%20deep%20learning_2)
* [Deep Learning eBook](https://www.mathworks.com/campaigns/offers/next/deep-learning-ebook.html)
* [Interactively Build, Visualize, and Edit Deep Learning Networks](https://www.mathworks.com/videos/interactively-build-visualize-and-edit-deep-learning-networks-1547156558295.html?s_tid=srchtitle_Interactively%20Build%252C%20Visualize%252C%20and%20Edit%20Deep%20Learning%20Networks%20_1)

# Machine Learning

* [Introduction to Machine Learning Video Series](https://www.mathworks.com/videos/series/introduction-to-machine-learning.html)
* [Classify Data Using the Classification Learner App](https://www.mathworks.com/videos/classify-data-using-the-classification-learner-app-106171.html)
* [Fraud Detection Using Machine Learning](https://www.mathworks.com/videos/machine-learning-applications-in-risk-management-fraud-detection-using-machine-learning-1536227257136.html)
* [Deep Learning vs Machine Learning ebook](https://www.mathworks.com/campaigns/offers/deep-learning-vs-machine-learning-algorithm.html)

# Reinforcement Learning

* [What Is Reinforcement Learning?](https://www.mathworks.com/discovery/reinforcement-learning.html)
* [Reinforcement Video Series](https://www.mathworks.com/videos/series/reinforcement-learning.html)
* [Train Reinforcement Learning Agent in Basic Grid World](https://www.mathworks.com/help/reinforcement-learning/ug/train-q-learning-agent-to-solve-basic-grid-world.html)

# Simulink

* [Simulink Overview (Simulation and Model-Based Design)](https://www.mathworks.com/videos/simulink-overview-61216.html?s_tid=srchtitle_simulink%20overview_1)
* [Getting Started with Simulink](https://www.mathworks.com/videos/getting-started-with-simulink-part-1-building-and-simulating-a-simple-simulink-model-1508442030520.html?s_tid=vid_pers_recs)
* [Model-Based Design with MATLAB and Simulink](https://www.mathworks.com/videos/model-based-design-with-matlab-and-simulink-69040.html?s_tid=srchtitle_model%20based%20design_1)
* [Run Models Interactively on Arduino and Raspberry Pi](https://www.mathworks.com/videos/run-models-interactively-on-arduino-and-raspberry-pi-1549462466264.html?s_tid=srchtitle_run%20models%20arduino_1)

# Stateflow

* [What is Stateflow](https://www.mathworks.com/videos/stateflow-overview-61210.html?s_tid=srchtitle_stateflow_2)
* [Stateflow Quick Start](https://www.mathworks.com/videos/introduction-to-stateflow-for-student-competition-teams-1507636691946.html?s_tid=srchtitle_stateflow%20quick%20start_1)
* [Creating an Arduino-Based Obstacle Game Using Simulink and Stateflow](https://www.mathworks.com/videos/creating-an-arduino-based-obstacle-game-using-simulink-and-stateflow-123582.html?s_tid=srchtitle_creating%20arduino%20based_1)

# Control Design

* [Getting Started with Simulink for Controls](https://www.mathworks.com/videos/getting-started-with-simulink-69027.html)
* [How to automatically tune PID controllers](https://www.youtube.com/watch?v=ENhFepqjFOY&ab_channel=MATLAB)
* [How to Get Started with Control Systems in MATLAB](https://www.youtube.com/watch?v=MylJIqVVNr0&ab_channel=MATLAB)

# Image Processing

* [Image Processing and Computer Vision with MATLAB](https://www.mathworks.com/videos/image-processing-and-computer-vision-with-matlab-1524489939916.html)
* [Introduction to image deblurring](https://blogs.mathworks.com/steve/2007/08/13/image-deblurring-introduction/)
* [Image processing apps](https://www.mathworks.com/help/images/referencelist.html?type=app&category=index&s_tid=CRUX_lftnav_app_import-export-and-conversion)
* [3D Volumetric Image Processing Demo](https://www.mathworks.com/videos/3d-volumetric-image-processing-demo--1487886076699.html)

# Signal Processing

* [Introduction to Signal Processing Apps in MATLAB](https://www.mathworks.com/videos/introduction-to-signal-processing-apps-in-matlab-1580188288390.html)
* [Process a Signal with Missing Samples](https://www.mathworks.com/help/signal/ug/process-a-signal-with-missing-samples.html)
* [Signal Processing for Machine Learning](https://www.mathworks.com/videos/signal-processing-for-machine-learning-99887.html)