

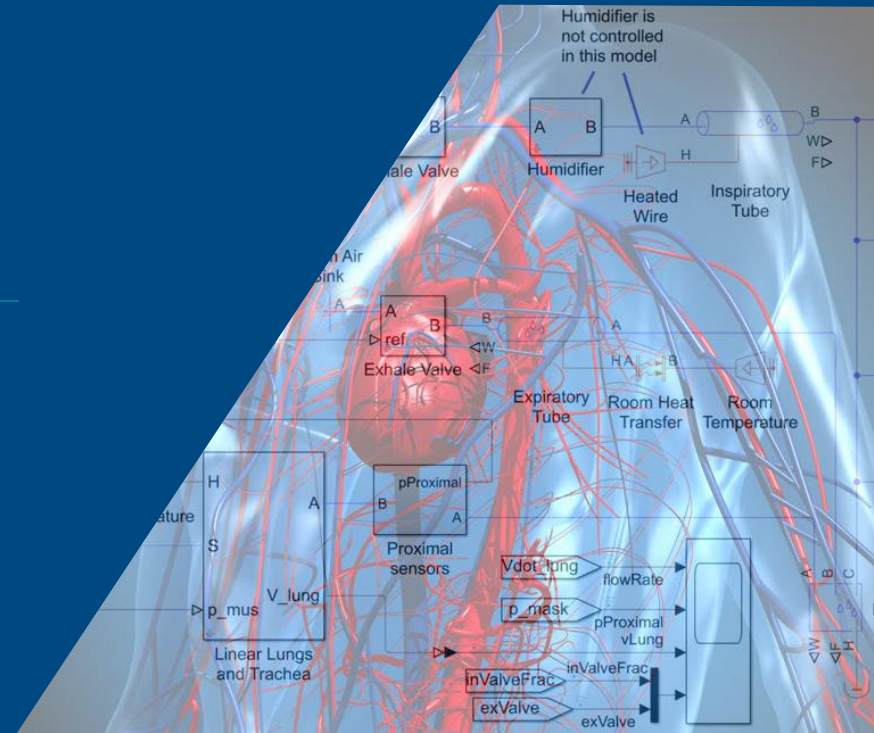


Modeling Biological Systems with Simulink

Sarah Fayyad *Sales Representative*

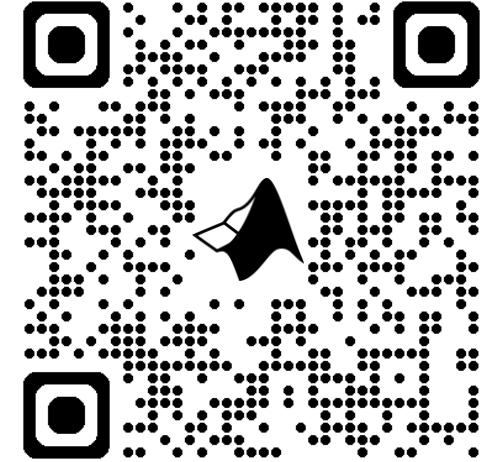
Armando Garcia *Customer Success Engineer*

Pourash Patel *Applications Engineer*



MathWorks - MAPTA Seminar Series

- March 11 – Introduction to Machine Learning for Bio Signals
- May 13 – Modeling Biological Systems with Simulink
- June 20 (TBD) - Mechanistic PK/PD and QSP Modeling with SimBiology



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MATLAB – Create algorithms and AI models for data analysis



Data Analysis



Graphics



Programming



App Building



External Language Interfaces



Hardware



Parallel Computing



Web and Desktop Deployment



MATLAB in the Cloud

MATLAB
Excel
Java C/C++ .exe
.NET.dll Python

Your Coding
Environment

MATLAB



MATLAB

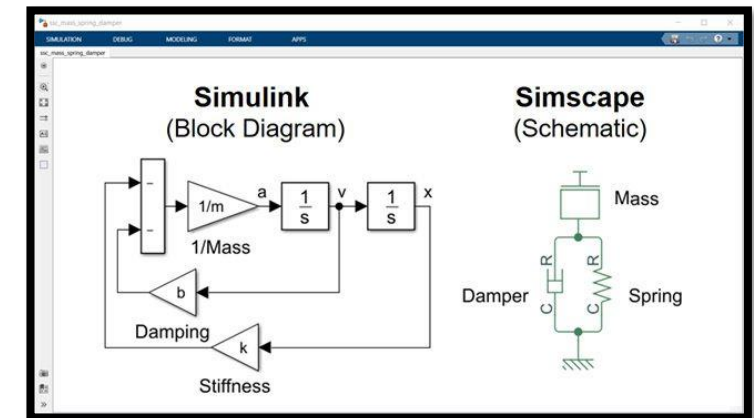
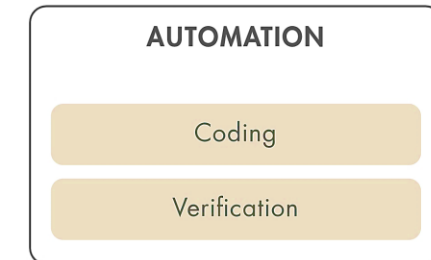
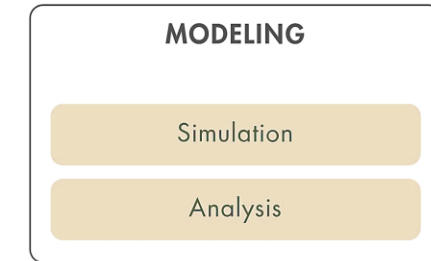


Other
Code

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MATLAB – Create algorithms and AI models for data analysis

Simulink – Model and simulate complex systems



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Simulink – Model and simulate complex systems

120+ products – for specialized R&D tasks

MATLAB Product Family

MATLAB

Application Deployment

MATLAB Compiler
MATLAB Compiler SDK
MATLAB Production Server
MATLAB Web App Server

Code Generation

Embedded Coder
Filter Design HDL Coder
Fixed-Point Designer
GPU Coder
HDL Coder
HDL Verifier
MATLAB Coder

Parallel Computing

MATLAB Parallel Server
Parallel Computing Toolbox

Reporting and Database Access

Database Toolbox
MATLAB Report Generator

Simulink Product Family

Simulink

Application Deployment

Simulink Compiler

Code Generation

AUTOSAR Blockset
C2000 Microcontroller Blockset
DDS Blockset
Embedded Coder
Fixed-Point Designer
HDL Coder
HDL Verifier
Simulink Code Inspector
Simulink Coder
Simulink PLC Coder

Physical and Event-Based Modeling

SimEvents
Simscape
Simscape Battery
Simscape Driveline
Simscape Electrical
Simscape Fluids
Simscape Multibody
Simulink 3D Animation
Stateflow

Real-Time Simulation and Testing

Simulink Desktop Real-Time
Simulink Real-Time

Reporting

Simulink Report Generator

Systems Engineering

System Composer

Verification, Validation, and Test

MATLAB Test
Polyspace Bug Finder
Polyspace Code Prover
Polyspace Test
Requirements Toolbox
Simulink Check
Simulink Coverage
Simulink Design Verifier
Simulink Fault Analyzer
Simulink Test

Simulink Product Family

Simulink

Application Deployment

Simulink Compiler

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MATLAB Online



MATLAB Drive



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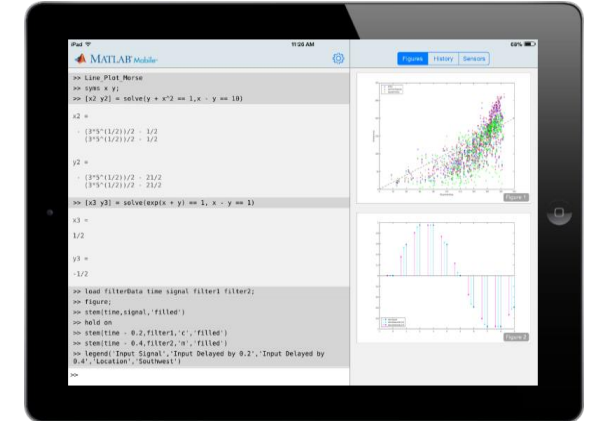
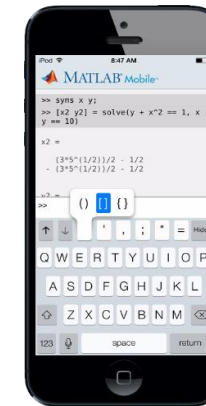
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MATLAB Mobile – acquire sensor data, integrated with online suite



Connect to MATLAB Mobile



Acquire Sensor Data



Capture Images, Video, and Audio

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MATLAB – Create algorithms and AI models for data analysis

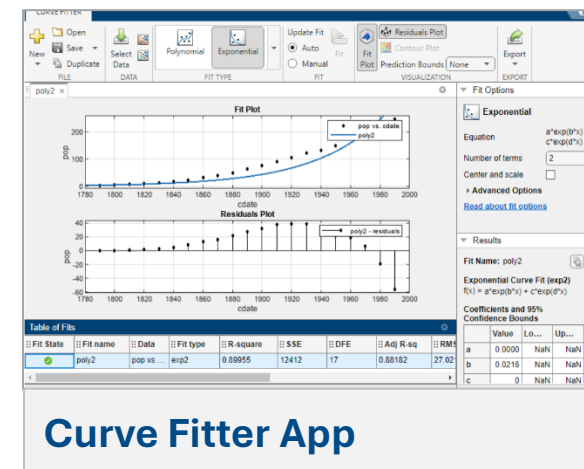
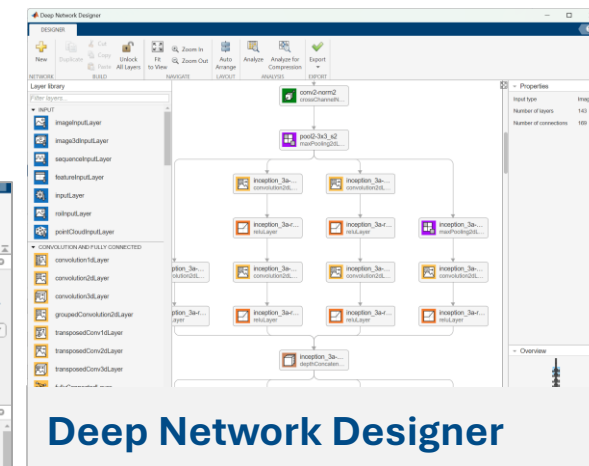
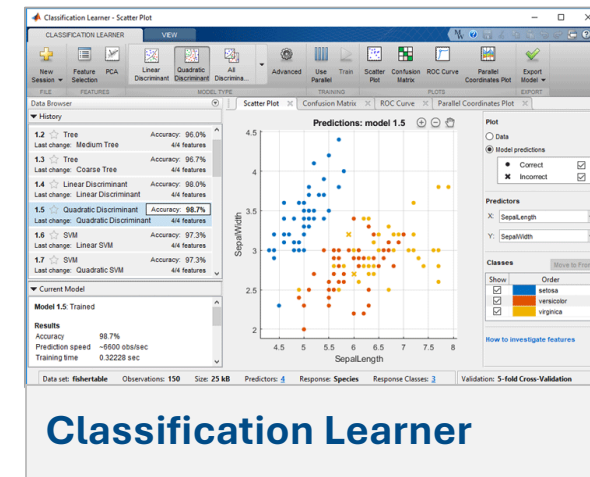
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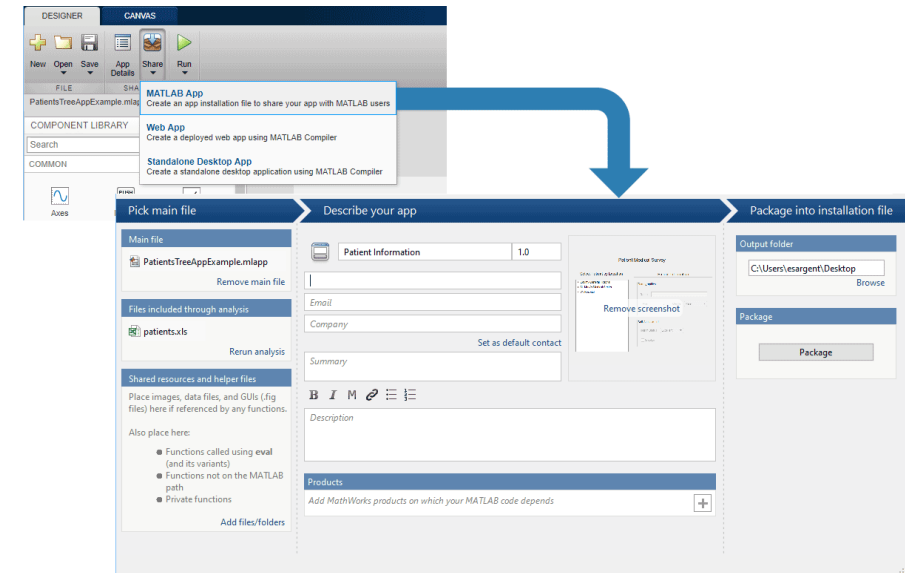
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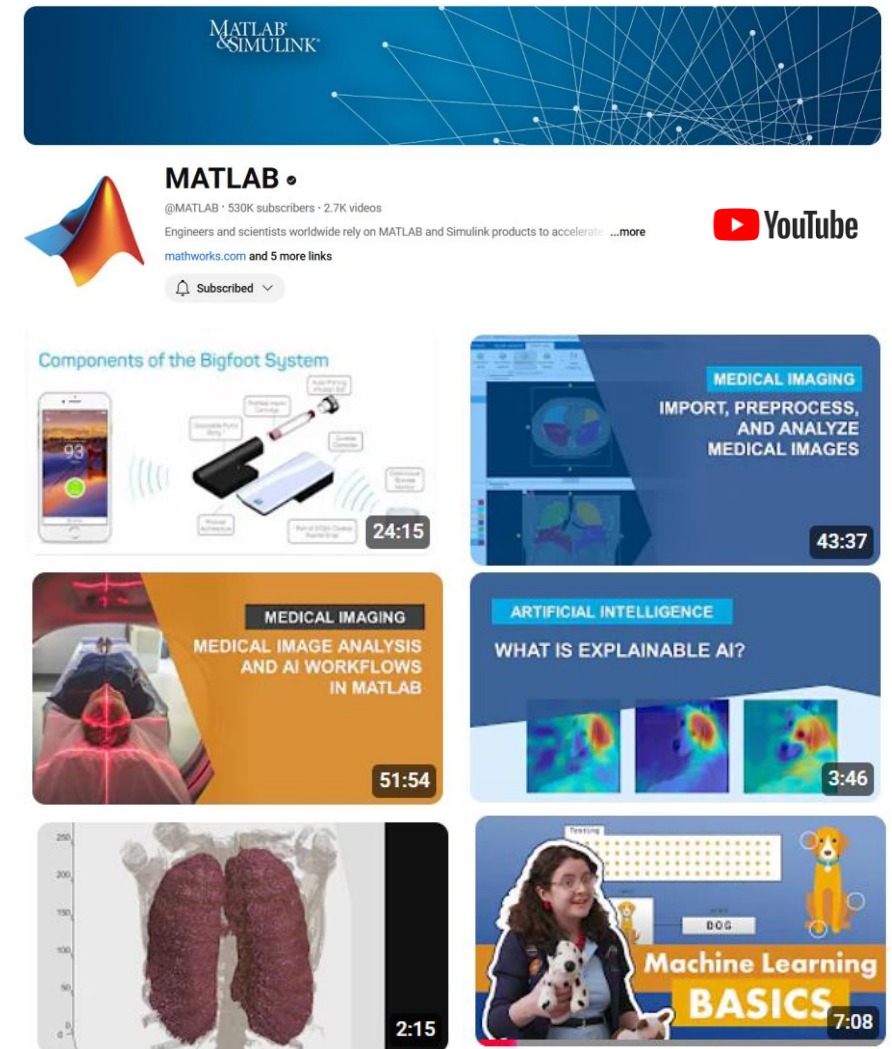
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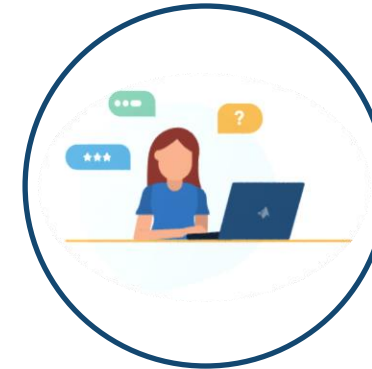
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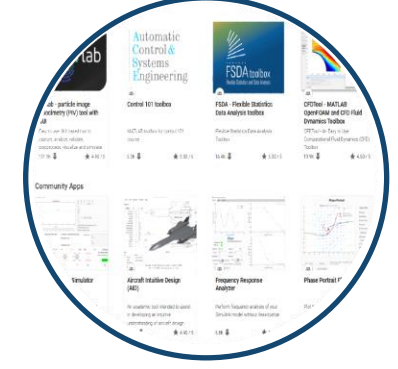
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Open-source MATLAB code Publish yours to help others



Get the inside view on MATLAB and Simulink



Experiment, generate draft code, answer questions



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Engineering support – tech support, demos/seminars, 1:1 guidance

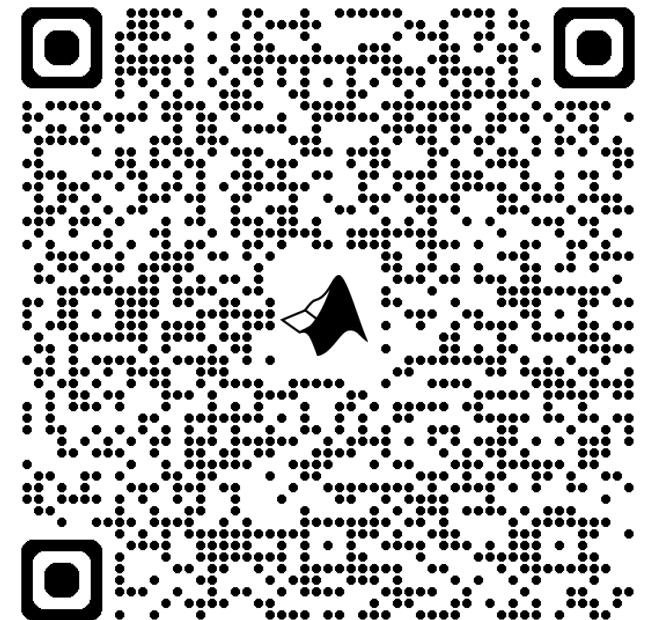


Computational Methods for Medical Applications Using AI and Machine Learning

<https://www.mathworks.com/company/events/webinars/upcoming/series/computational-methods-for-medical-applications-using-ai-and-machine-learning-na-2025.html>

Date	Topic	
13 May 2025	Low Code Data Analysis for Medical Applications	» Learn More & Register
27 May 2025	Machine Learning for Biomedical Signal Classification	» Learn More & Register
10 Jun 2025	Medical Image Analysis and AI Workflow	» Learn More & Register

1:00 PM CDT for all sessions



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