# Deep Learning Overview for Medical Imaging

## Abstract

Deep Learning is a key technology driving the current Artificial Intelligence (AI) megatrend. You may have heard of some mainstream applications of deep learning, but how many of them would you consider applying to your medical imaging applications?

MathWorks developers have purpose-built MATLAB's deep learning functionality for engineering and science workflows. We understand that success goes beyond just developing a deep learning model. Ultimately, models need to be incorporated into an entire system design workflow to deliver a product or a service to the market.

The aim of the session is to provide an overview of how MATLAB enables you to take advantage of disruptive technologies like deep learning. We'll explore, in detail, the workflow involved in developing and adapting a deep learning algorithm for medical image segmentation problem using the real-world case study of Left-Ventricle (LV) segmentation from cardiac MRI images.

Highlights:

- Show where deep learning is being applied in engineering and science, and how its driving MATLAB's development.
- Demonstrate a workflow for how you can research, develop and deploy your own deep learning application.
- Outline what Techsource engineers can do to help support you achieve success with deep learning.

Technologies demonstrated include:

- Semi-Automating Ground Truth Image Labeling
- Training and Evaluating a Semantic Segmentation Algorithm
- Generating optimized native embedded code