

Title

AI Applications for Medical Imaging

Description

AI techniques such as deep learning is increasingly seen as a powerful tool to address many complex problems in pathology and radiology workflows involving image segmentation and classification, as well as in the medical and healthcare areas such as digital health, physiological signal analysis, and patient monitoring applications.

In this presentation, we'll explore in detail the workflow involved in developing and adapting a deep learning algorithm for medical image classification using real-world case studies from MRI or microwave images.

Medical microwave imaging is an emerging technology that has great potential especially in the area of breast cancer detection. It uses electromagnetic (EM) waves in microwave regime to reconstruct the structure of a sample under test (e.g. the human body for medical imaging) by capturing the reflected waves based on the non-homogeneous electrical/magnetic properties of the material.

Experimental results show deep learning techniques may lead to an increase of performance for tasks like tumor shape classification.

Presenter

Stefano Olivieri

Bio

Stefano received a Master's Degree in Electrical Engineering at University of Bologna, Italy, in July 1995, and got a Post Graduate Advanced Degree in Information Technology at CEFRIEL, Polytechnic of Milan the same year.

He's been with MathWorks since 2005. After spending eight years as an Application Engineer in the field of Signal Processing and Communication Systems, supporting companies in the Communications, Electronics, Semiconductors and Aerospace and Defense industry segments, Stefano is currently working as an Customer Success Engineer to help the top universities with the adoption of MathWorks tools for effective teaching and research.

Before that, he worked with R&D labs in STMicroelectronics and Philips Research, where he dealt with the design and development of wireless communication and video processing systems.

Stefano has also been Contract Professor with the University of Milano for three years, where he was teaching Transmission Theory for the Telecommunication Software Engineering Bachelor Degree.

