Dipartimento di Ingegneria,
Aula del consiglio, via Roma 29, Aversa (Ce) 25.06.2019 – ore 10.30

Microwave inverse imaging meets deep learning

Seminario

Abstract

The talk starts by motivating the area of inverse microwave imaging -- an area that brings together electromagnetics, signal processing, and data analytics. The objective here is to infer the electrical properties of an object by studying how it scatters electromagnetic fields -- all without making contact, i.e. remotely. The applications go from breast cancer imaging, to buried land mine detection. At the heart of this problem lies a challenging ill-posed nonlinear optimization problem. I will describe some of the contemporary methods of solving this problem, highlight the challenges faced, and describe recent results.

Speaker

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Biography

Uday Khankhoje is an Assistant Professor of Electrical Engineering at the Indian Institute of Technology Madras, Chennai, India, since 2016. He received a B.Tech. degree from the Indian Institute of Technology Bombay, Mumbai, India, in 2005, an M.S. and PhD. degrees from the California Institute of Technology (Caltech), Pasadena, USA, in 2010, all in Electrical Engineering. He was a Caltech Postdoctoral Scholar at the Jet Propulsion Laboratory (NASA/Caltech) from 2011-2012, a Postdoctoral Research Associate in the Department of Electrical Engineering at the University of Southern California, Los Angeles, USA, from 2012-2013, and an Assistant Professor of Electrical Engineering at the Indian Institute of Technology Delhi from 2013-2016. His research interests are in the area of computational electromagnetics and its applications to remote sensing and inverse imaging

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