

A five day workshop as part of SmartNets2022 Conference
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Machine Learning Algorithms to Industrial Applications



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Mahesan Niranjana is professor of Electronics and Computer Science at the University of Southampton, UK. Prior to this appointment in 2008, he has held academic appointments in the Universities of Sheffield and Cambridge. At Sheffield he has served as Head of the Department of Computer Science and Dean of the Faculty of Engineering. Professor Niranjana has over 35 years of experience in the subject of machine learning and has contributed to both the algorithmic and applied aspects of the subject. He has published over 150 papers in peer reviewed journals and conferences, supervised 40 PhD candidates, held several grants from the UK Research Councils and the European Union and has given several keynote lectures and tutorials at international workshops.

Background:

Machine Learning is the subject underpinning most recent advances in Artificial Intelligence, including from automatic translation between languages, computer vision for autonomous driving and playing complex games such as Chess and Go. This workshop will introduce some of the foundational concepts in the subject and show how and when they are applicable in advanced industrial and scientific settings ranging from medical imaging in health care to adaptive routing in wireless communication.

Content:

- Mathematical foundations
- Clustering, classification and regression
- Adaptive algorithms (e.g. perceptron learning)
- Tricks-of-the-trade and state-of-the-art in deep neural networks
- Inference from medical images
- Applications in wireless communications
- Discussion of “bring your own problem”

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