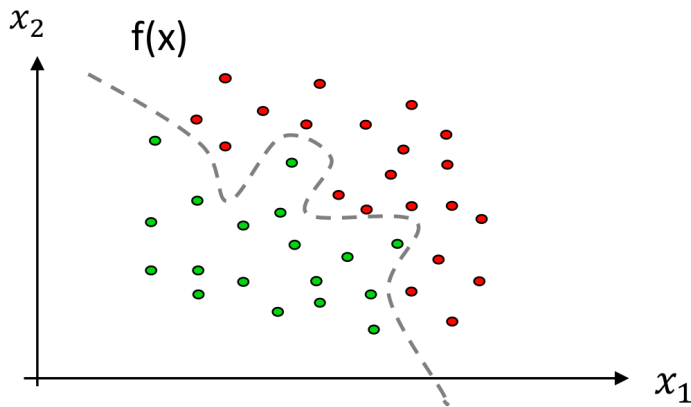


PRALab Invited talk on “Model Selection and Error Estimation”



Tuesday 27th February at 16:00
Mocci Room, Building A of DIEE

Speaker:

Dr. Luca Oneto
University of Genoa, Italy

Abstract:

How can we select the best performing predictive model? How can we rigorously estimate its generalization error? Statistical Learning Theory (SLT) answers these questions by deriving non- asymptotic bounds on the generalization error of a model or, in other words, by upper bounding the true error of the learned model based just on quantities computed on the available data. However, for a long time, SLT has been considered only an abstract theoretical framework, useful for inspiring new learning approaches, but with limited applicability to practical problems. The purpose of this tutorial is to give an intelligible overview of the problems of Model Selection and Error Estimation, by focusing on the ideas behind the different SLT-based approaches and simplifying most of the technical aspects with the purpose of making them more accessible and usable in practice. We will start by presenting the seminal works of the 80's until the most recent results, then discuss open problems and finally outline future directions of this field of research.

Biography:



Luca Oneto was born in Rapallo, Italy in 1986. He received his BSc and MSc in Electronic Engineering at the University of Genoa, Italy respectively in 2008 and 2010. In 2014 he received his PhD from the same university in School of Sciences and Technologies for Knowledge and Information Retrieval with the thesis "Learning Based On Empirical Data". In 2017 he obtained the Italian National Scientific Qualification for the role of Associate Professor in Computer Engineering. He is currently an Assistant Professor at University of Genoa with particular interests in Statistical Learning Theory, Machine Learning, and Data Mining.