Fri, February 4th, 2022, 2:00 p.m., DIMA – Room 706, via Dodecaneso 35, Genova.

Statistical Learning and Optimization

Thoughts on today's learning theory

Abstract.

I will describe a personal perspective on the present state of key problems in learning theory. Several different architectures that perform well have emerged, in addition to CNN, such as transformers, perceivers and MLP mixers. Is there a common motif to all of them and to their good performance? A natural conjecture is that these modern architecture are good for the approximation, learning and optimization of input-output mappings that can be represented by "sparse" functions that are effectively low-dimensional. In particular, these target functions are typically compositional functions with a function graph that has nodes each with dimensionality at most k, with $k<<d$ where d is the dimensionality of the function domain.

Speaker

Tomaso A. Poggio

Eugene McDermott Professor, Brain and Cognitive Sciences;
Director, Center for Brains, Minds, and Machines;
Founding Scientific Advisor of The Core, MIT Quest for Intelligence;
Investigator, Computer Science and Artificial Intelligence Laboratory
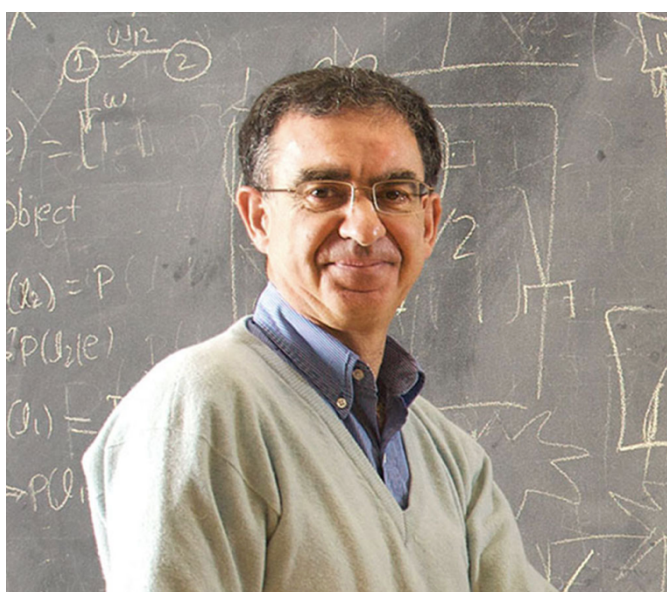
Tomaso A. Poggio is the Eugene McDermott Professor in MIT's Department of Brain and Cognitive Sciences and the director of the NSF Center for Brains, Minds and Machines at MIT. He is a founding member of the McGovern Institute as well as a member of the Computer Science and Artificial Intelligence Laboratory. A former Corporate Fellow of Thinking Machines Corporation, a former director of PHZ Capital Partners, Inc. and of Mobileye, he was involved in starting, or investing in several other high tech companies including Arris Pharmaceutical, nFX, Imagen, Digital Persona, Deep Mind and Orcam. He is one of the most cited computational scientists and has mentored PhD students and postdocs that are some of the today's leaders in the science and engineering of intelligence.

Seats are limited. Please register with your name and affiliation at malga.unige@gmail.com.

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