UNIVERSITÀ DEGLI STUDI
DI TRENTO

Dipartimento di Matematica

# SEMINARI

***Mathematics for Data Science, Artificial Intelligence and Machine Learning***

**Friday 14 October 2022 – at 14:00**

**Seminar Room "-1", Povo0, Via Sommarive 14,**
**and online through the ZOOM platform**
**https://unitn.zoom.us/j/81698041878 (Passcode: 028649)**


## Dario Trevisan

**(Università di Pisa)**


# Quantitative Gaussian approximation of randomly initialized deep neural networks


**Abstract:**

Given any deep fully connected neural network, initialized with random Gaussian parameters, we bound from above the quadratic Wasserstein distance between its output distribution and a suitable Gaussian process. Our explicit inequalities indicate how the hidden and output layers sizes affect the Gaussian behaviour of the network and quantitatively recover the distributional convergence results in the wide limit, i.e., if all the hidden layers sizes become large. Joint work with with A. Basteri (arXiv:2203.07379).


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**CONTATTI**
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