Machine Learning and the Renormalization Group

Monday 27 May 2024

<u>Talks</u> - Aula Renzo Leonardi (10:15 - 11:00)

time	[id] title	presenter
10:15	[14] Non-perturbative renormalization for the neural network-QFT correspondence	ERBIN, Harold

<u>Talks</u> - Aula Renzo Leonardi (11:30 - 12:15)

time	[id] title	presenter
11:30	[17] Physics-induced functional RG flows	IHSSEN, Friederike

<u>Talks</u> - Aula Renzo Leonardi (14:30 - 15:15)

time	[id] title	presenter
14:30	[22] Extracting operator content of quantum and classical lattice models using lossy compression theory	KOCH-JANUSZ, Maciej

<u>Talks</u> - Aula Renzo Leonardi (15:45 - 16:30)

time	[id] title	presenter
15:45	[16] ML through the lens of Renormalization Group	Dr MAITI, Anindita

Tuesday 28 May 2024

<u>Talks</u> - **Aula Renzo Leonardi (09:30 - 11:00)**

time	[id] title	presenter
09:30	[8] Soft matter physics as a joint between deep learning and renormalisation group	POTESTIO, Raffaello
10:15	[10] Generating configurations of increasing lattice size with machine learning and the inverse renormalization group	BACHTIS, Dimitrios

<u>Talks</u> - **Aula Renzo Leonardi (11:30 - 12:15)**

time	[id] title	presenter
11:30	[3] Detecting composite orders in layered models via machine learning	DEFENU, Nicolo

<u>Talks</u> - **Aula Renzo Leonardi (14:30 - 15:15)**

time	[id] title	presenter
14:30	[7] Renormalization Group Approach for Machine Learning Hamiltonian	Dr OZAWA, Misaki

<u>Talks</u> - **Aula Renzo Leonardi (15:45 - 16:30)**

time	[id] title	presenter
15:45	[12] Phi^4 Theory as a Neural Network Field Theory	HALVERSON, Jim

Wednesday 29 May 2024

Talks - **Aula Renzo Leonardi (09:30 - 11:00)**

time	[id] title	presenter
09:30	[19] Machine learning renormalization group actions	HOLLAND, Kieran WENGER, Urs
10:15	[20] Machine learning renormalization group actions	HOLLAND, Kieran WENGER, Urs

Talks - **Aula Renzo Leonardi (11:30 - 12:15)**

time	[id] title	presenter
11:30	[13] Localized machine learned flow maps to accelerate Markov Chain Monte Carlo simulations	Dr FINKENRATH, Jacob

Talks - **Aula Renzo Leonardi (14:30 - 15:15)**

time	[id] title	presenter
14:30	[11] Applications of flow models to the generation of correlated lattice QCD ensembles	ROMERO-LOPEZ, Fernando

Talks - **Aula Renzo Leonardi (15:45 - 16:30)**

time	[id] title	presenter
15:45	[9] Understanding infinite width neural networks from the perspective of statistical mechanics	Dr SOHL-DICKSTEIN, Jascha

Thursday 30 May 2024

Talks - Aula Renzo Leonardi (09:30 - 11:00)

time	[id] title	presenter
09:30	[23] Effective Theory of Deep Neural Networks	YAIDA, Sho
10:15	[4] Diffusion Models as Stochastic Quantization in Lattice Field Theory	ZHOU, Kai

Talks - Aula Renzo Leonardi (11:30 - 12:15)

time	[id] title	presenter
11:30	[15] Renormalizing Diffusion Models	REZCHIKOV, Semen

Talks - Aula Renzo Leonardi (14:30 - 15:15)

time	[id] title	presenter
14:30	[21] RG inspired perspectives on diffusion models	GERDES, Mathis

Talks - Aula Renzo Leonardi (15:45 - 16:30)

time	[id] title	presenter
15:45	[24] Topological Data Analysis of Monopoles in U(1) Lattice Gauge Theory	CREAN, Xavier

Friday 31 May 2024

<u>Talks</u> - Aula Renzo Leonardi (09:30 - 11:00)

time	[id] title	presenter
09:30	[6] Action estimation with continuous-mixture autoregressive networks	Dr WANG, Lingxiao
10:15	[18] Learning correlations between "characters" by a nano-GPT	HAJIZADEH, Ouraman

<u>Talks</u> - Aula Renzo Leonardi (11:30 - 12:15)

time	[id] title	presenter
11:30	[5] Learning and (not quite) random matrix theory	AARTS, Gert