The Hitchhiker's Guide to Condensed Matter and Statistical Physics:
Machine Learning for Condensed Matter

13, 20, 27 January, 3 February 2021
An ICTP Virtual School, 1st edition
Trieste, Italy

Further information:
http://indico.ictp.it/event/9471/
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This online school is the first in a series of events to be held during 2021 under the joint title "The Hitchhiker's Guide to Condensed Matter and Statistical Physics" whose goal is to sketch a roadmap of current exciting research directions in Condensed Matter and Statistical Physics.

Description:

These events are aimed at advanced undergraduate and graduate students, as well as young researchers interested in learning more about different subjects, both from the developing world and elsewhere.

The lectures will be held once a week over 4 weeks in January and February 2021 and will lead the students from basic notions to the open problems in each topic. Each week one of the four lecturers will present one hour of basic notions plus one hour of a colloquia-style lecture, with ample time for discussions.

The first series of lectures will be dedicated to Machine Learning (ML) and its intersections with Condensed Matter and Statistical Physics. How can statistical physics help in understanding the theory behind ML techniques? What are the most fruitful applications of ML methods to condensed matter physics? The lectures will answer these and other questions related to ML and many-body quantum systems, quantum computing, and material physics.

Directors:

R. FAZIO, ICTP, Italy
A. HASSANALI, ICTP, Italy
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A. RODRIGUEZ GARCIA, ICTP, Italy
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Local Organizer:

A. JELIC, ICTP, Italy

Lecturers:

G. CARLEO, EPFL, Switzerland
J. CARRASQUILLA, Vector Institute for Artificial Intelligence, Canada
B. CHENG, University of Cambridge, United Kingdom
D. SCHWAB, The Graduate Center, CUNY, USA

Basic notions sessions will be held before the main lectures.

How to apply:

Online application:
http://indico.ictp.it/event/9471/

Female scientists are encouraged to apply.

Registration:

There is no registration fee.

Deadline:

15 December 2020

The Abdus Salam
International Centre for Theoretical Physics

www.ictp.it
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