DATAHYKING Network-wide research and training event

Report of Contributions

DATAHYKING ... / Report of Contributions

Welcome coffee

Contribution ID: 1

Type: not specified

Welcome coffee

Contribution ID: 2

Type: not specified

Jingwei Hu: A brief introduction to the Boltzmann equation and its numerical methods 1/4

Monday, September 9, 2024 10:30 AM (1 hour)

Siddhartha Mishra 1/2

Contribution ID: 3

Type: not specified

Siddhartha Mishra 1/2

DATAHYKING ... / Report of Contributions

Giovanni Samaey: Reproducible re...

Contribution ID: 4

Type: not specified

Giovanni Samaey: Reproducible research: efficient data management strategies for high-quality open science 1/2

Monday, September 9, 2024 11:45 AM (1 hour)

TBA

Contribution ID: 5

Type: not specified

Jingwei Hu: A brief introduction to the Boltzmann equation and its numerical methods 2/4

Monday, September 9, 2024 2:30 PM (1 hour)

Contribution ID: 6

Type: not specified

Siddhartha Mishra: Learning Solution operators of PDEs.

Tuesday, September 10, 2024 9:00 AM (1h 30m)

Partial Differential Equations (PDEs) are ubiquitous as mathematical models in science and engineering. Numerical methods are the key tools in their study. Yet, despite their considerable success, the underlying high computational cost inhibits the scope and applicability of numerical methods and necessitates the development of alternatives. In this context, machine learning (ML) algorithms are being increasingly used as surrogates for numerical PDE solvers. In this talk, We will focus on a particular class of ML algorithms that aim to learn the solution operator of PDEs from data. The underlying issues will discussed and different architectures presented. In particular, We will present a very recently proposed Foundation Model for PDEs.

Contribution ID: 7

Type: not specified

Jingwei Hu: A brief introduction to the Boltzmann equation and its numerical methods 3/4

Tuesday, September 10, 2024 11:00 AM (1 hour)

Giovanni Samaey: Reproducible re...

Contribution ID: 8

Type: not specified

Giovanni Samaey: Reproducible research: efficient data management strategies for high-quality open science 2/2

Monday, September 9, 2024 3:45 PM (1 hour)

Contribution ID: 9

Type: not specified

Jingwei Hu: A brief introduction to the Boltzmann equation and its numerical methods 4/4

Tuesday, September 10, 2024 2:00 PM (1 hour)