Other - Colloquium on Artificial Intelligence Research and Optimization

Scientific Machine Learning (SciML): An overview and Discussion of Applications in Petroleum Engineering

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Virtual- REGISTRATION REQUIRED (SEE ABSTRACT) Zoom
March 03, 2021 - 01:00 pm

Abstract:

Scientific Machine Learning or SciML is a relatively new phrase that is used to describe the intersection of data science, machine learning, and physics based computational simulation. SciML encompasses many ideas including physics informed neural networks, universal differential equations, and the use of synthetic data generated from physical simulators in training machine learning models for rapid decision making. This talk will give an overview of SciML using simple examples and discuss recent results from our investigations using SciML in petroleum
engineering applications, specifically for reservoir simulation and drillstring dynamics.

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Speaker's Bio:

Before joining UT Austin, John was a faculty member in mechanical engineering at UTSA and was a Senior Member of the Technical Staff at
Sandia National Laboratories. He received his BS and MS in mechanical engineering from Texas Tech University and PhD from Purdue University. He is a registered Professional Engineer in the State of Texas and the co-founder and CTO of Daytum, a tech-enabled professional education company for data science and machine learning targeting the energy industry.

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