Old Dominion University
Department of Physics
Colloquium

Tuesday, January 30, 2024

"Scientific Machine Learning and Applications"

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Abstract:
 In this talk, I will present some use-cases of scientific machine learning. The first presentation coveres a newly-developed method to incorporate approximate physics models as priors in machine learning model training, to prevent over-fitting and enhancing the generalization capabilities of the trained models. Utilizing the structural risk minimization (SRM) inductive principle pioneered by Vapnik, the approach structures the physics priors into generalized regularizers. The second user case presents the streaming implementation of a machine learning model (decision trees) for extremely low latency applications, which has been deployed at an national high energy accelerator facility. Time permitting, I will also present some thoughts on the collaboration between scientific machine learning, data science and physical sciences.

Presentation: OCNPS 200 @ 3:00 pm
Refreshments: OCNPS Atrium @ 2:30 pm

All interested persons are cordially invited to attend.