Artificial Intelligence and the Uncertainty challenge in Fundamental Physics



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Uncertainty Quantification and Anomaly Detection with Evidential Deep Learning

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Evidential Deep Learning (EDL) is an uncertainty-aware deep learning approach designed to provide confidence (or epistemic uncertainty) about test data. It treats learning as an evidence acquisition process where more evidence is interpreted as increased predictive confidence. This talk will provide a brief overview of EDL for uncertainty quantification (UQ) and will discuss its connection with anomaly detection (AD). Several examples will be presented, including ongoing work in this area for HEP applications.

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