

Anomaly Detection and Surety for Safeguards Data

- This project will evaluate a new safeguards data paradigm that will develop and test a novel safeguards data authentication, integration, and analysis workflow. It will also explore the potential use of operator data such as safety and physical protection systems' data to augment traditional safeguards verification data within secure, MPC environments
- Technical approach for the project is based on the foundation of
 - distributed ledger technology (DLT)
 - anomaly detection through grammar compression (GC)
 - multi-party computing (MPC)
 - using data collected from the MINOS testbed as a proxy for international safeguards data
- Nuclear safeguards is a data-rich field that should be ideal for the application of modern data analytics techniques, but the technologies necessary for IAEA implementation are not sufficiently mature. To address this gap, the Sandia team is focused on data surety and anomaly detection to ensure continuity of knowledge and improve timely diversion detection.

Poster #

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