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RESEARCH ARTICLE

A STUDY ON DATA REPERTORY ACUMEN SCHEMA TO MANAGE DATA PROVENANCE IN GEOSCIENCE APPLICATION

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Abstract: Data provenance accepts and approves the scientists to model as to investigate the beginning of an unexpected value. It can be used as a duplicate recipe for output data products. The capturing provenance requires enormous effort by scientists in terms of time, training and need to design the workflow of the scientific model i.e., workflow source, which requires both time and training. Scientists may not document any workflow source before the model execution due to lack of time and training. And it is needed to capture provenance while the model is running, i.e., fine-grained data provenance. Explicit documentation of fine-grained provenance is not feasible because of the massive storage consumption by source data in the applications, including those from the geosciences domain where data are continuously arriving and are processed. This work proposed an inference-based framework, which provides both workflow and fine-grained data provenance at a minimal cost in terms of time, training, and disk consumption. The proposed framework is applicable to any given scientific model, which is capable of handling different model dynamics. The variation in the processing time as well as input data products arrival design. The framework used to especially shows the data that are proposed. Proposed framework is relevant and suitable for scientists using geosciences domains for their research work.

Index terms: Data Provenance; Geo Processing workflow; Geographic information system

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