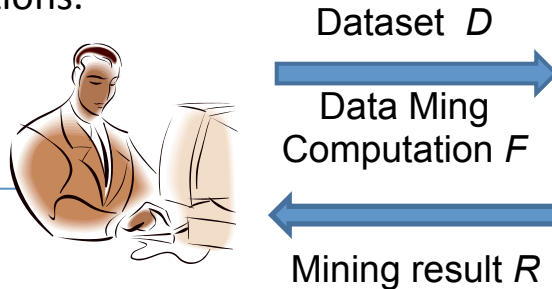


CAREER: Verifiable Outsourcing of Data Mining Computations



Challenge:

Design efficient and practical verification mechanisms that enable the client with weak computational power to verify the soundness of returned results of outsourced data mining computations.



Solution:

- Design of assertion-based verification for outsourced data mining computations;
- Integrating privacy-preserving data mining techniques with verification;
- Analyzing and strategic modeling of the service provider's misbehaviors

Scientific Impact:

- The proposed verification methods can be applied to other data outsourcing models such as Database-as-a-service.
- The proposed verification methods can be adopted to other types of MapReduce computations.



Broader Impact:

- Curriculum development;
- Mentoring graduate students;
- Supervising undergraduate students;
- Involving women and underrepresented students into cybersecurity research.

Award #: 1350324

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