

Data Mining Solution Center: Providing Mining as a Service

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Service Oriented Architecture (SOA) is a new paradigm for building client/server architecture based on loose coupling between interacting software components. SOA emphasizes the notion of ‘separation of concern’ – that most software systems are complex and it is more effective to consume a service rather than build one. SOA components must have simple and ubiquitous interfaces and must communicate to each other via descriptive messages constrained by an extensible schema. We have transitioned our data mining system, Algorithm Development and Mining (ADaM), to the new distributed computing landscape consisting of web services. These mining services can now be scripted together to form mining workflows using visual authoring tools. This presentation will describe the Data Mining Solutions Center built using this service-based architecture. This virtual solutions center allows researchers to leverage both the analytic tools and services along with high-end computational resources and storage to perform analysis on their large geospatial datasets. In addition, the solutions center provides a controlled collaborative environment allowing researchers to publish and share individual mining workflows or full experiments containing workflows, data and results with one another.