

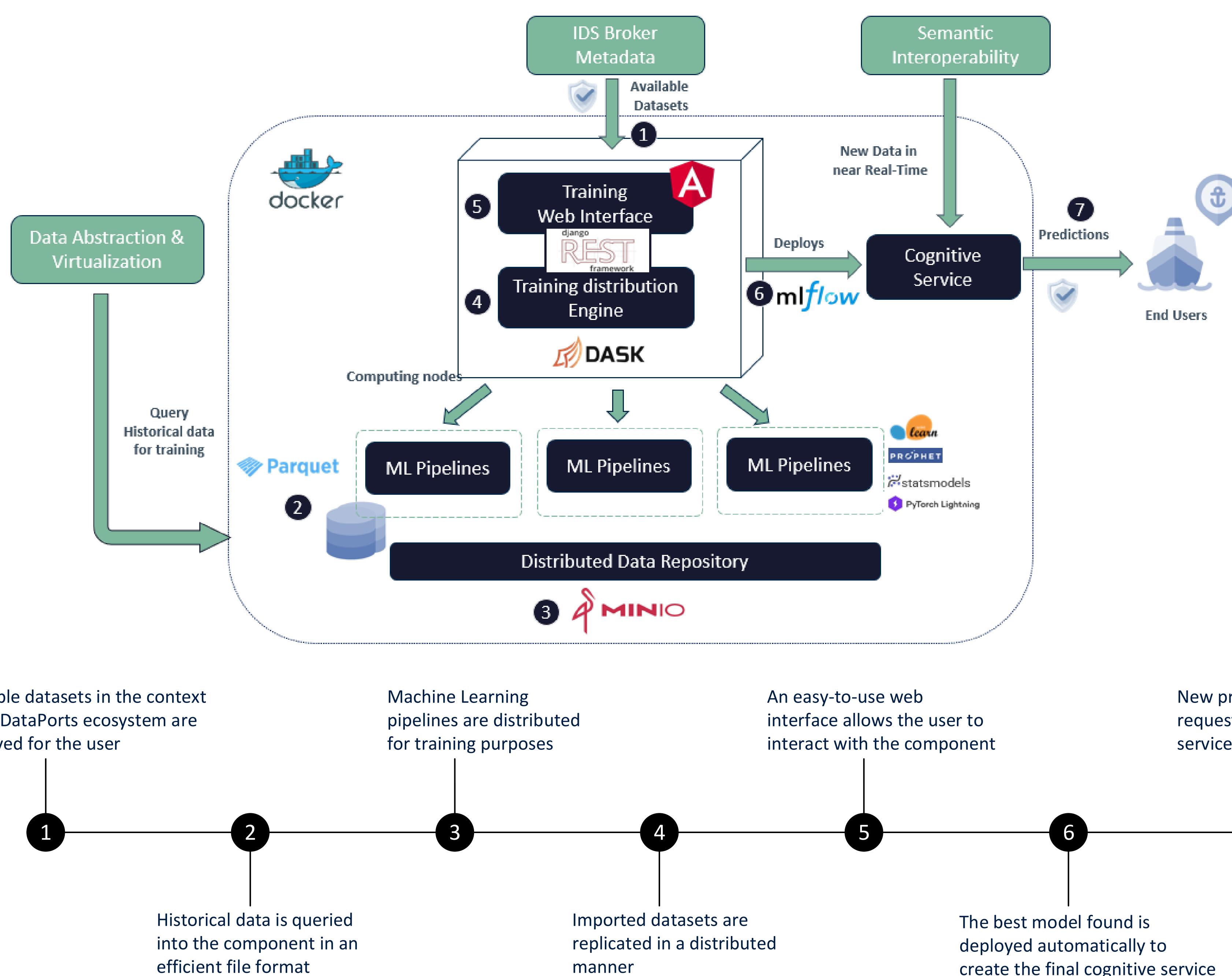
Automatic Models Training Engine

Overview



The Automatic Model Training Engine is a technical solution to create cognitive services for Port business KPIs. The component implements a set of predefined training data pipelines made up of a rich collection of state-of-the-art machine learning algorithms from various predictive domains. With a distributed approach, multiple instances of such pipelines are executed simultaneously to automatically find the most suitable model for the goal selected by the end user.

Component at a glance



Goals of the component

- **AI Cognitive Services:** Provide a mechanism to automatically create optimized AI cognitive services to solve port business needs with the available data at the platform
- **Data Training Pipelines:** Offer a set of pre-defined data pipelines based on data analytics services and AI algorithms to develop cognitive applications in the context of the involved pilots
- **Machine Learning Models:** Analysis, evaluation, and selection of a wide collection of state-of-the-art ML algorithms to support the most favorable development of cognitive services
- **Interoperability API:** Provide a common API to access to the data, metadata and cognitive services available at the platform
- **Integration with Data Components:** Integration with Semantic Interoperability API, Data Abstraction and Virtualization and Data Governance components

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About the component

- **Training Web Interface:** Mechanism that enables direct interaction with the component by the end user and allows the creation and administration of port-oriented cognitive services
- **Training Distribution Engine:** Device that computes all the necessary data processing steps to find the best predictive model that is capable of solving a certain business KPI to form the final cognitive service

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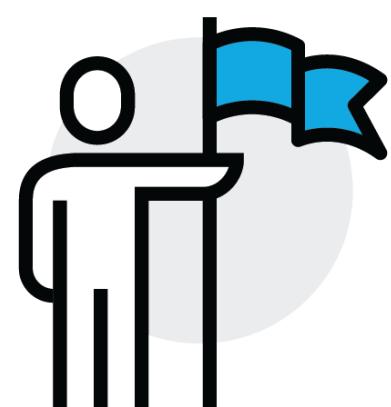
Target users

- Ports business experts
- Internal Platform Components
- Ports Data Users



Use case scenarios

- Creation of Ports Cognitive Services
- Management of existing Cognitive Services
- Analysis of model predictions
- Decision making based on models results



Benefits

- **Ease of use and deploy:** Facilitating the creation of cognitive services in an automatic manner. The component can be easily deployed in any infrastructure.
- **Faster trainings:** The cognitive services trainings are faster due to the advantages of distributed computing
- **Interoperability:** Allowing the connection of heterogeneous Data Sources available at the platform
- **AI knowledge abstraction:** Ease the effort in creating cognitive services by non AI experts
- **Fully compatible with common Open-Source Software:** Use of common components and shared Open-Source code