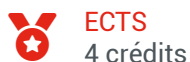


Data engineering for sustainable and mobile application



Présentation

Description

Goal : Introduction to data management, from centralized databases to distributed semantic web of data. Describe different data modelling approaches

List of subjects to be presented to the students :

- Data storage:
 - Relational databases (SQL)
 - Non-Relational databases (NoSQL)
 - Graph based, document based, etc.
- Introduction to distributed semantic web of data
- Information and data modeling
 - Visual representation
 - Languages (RDF, OWL, JSON-LD, etc.): namespaces, relationships, entities, properties.
 - Data storage: Triplestore, Graph Databases, etc.
 - Query languages and engines: SPARQL
- Taxonomy and Ontology
 - Inference, Equivalence, Transitivity
 - Examples: generic, IoT, SAREF, Smartcity, etc.
- Data models
 - Data vs Metadata (data quality, enrichment, and linking)
 - Attribute definition
- Data acquisition, sources and introduction to processing
 - 5V's of BigData (velocity, volume, value, variety and veracity)
 - Datasets vs Data Streams (timeseries, etc.)
 - Mapreduce
- Good and bad modeling practices
- Initiatives on smartcity interoperability
 - FIWARE, Smart Data Models, NGSI-LD ETSI standard, oneM2M

- Infrastructure federation