A wide variety of techniques, algorithms, and tools is available from machine learning. However, an important requirement for ontology representation is that ontologies must be symbolic, human-readable, and understandable. This forces us to deal only with symbolic learning algorithms that make generalizations and to skip other methods like neural networks and genetic algorithms. The following are some potentially applicable algorithms:

- Propositional rule learning algorithms learn association rules or other forms of attribute-value rules.
- Bayesian learning is mostly represented by the Naive Bayes classifier. It is based on the Bayes theorem and generates probabilistic attribute-value rules based on the assumption of conditional independence between the attributes of the training instances.
- First-order logic rules learning induces the rules that contain variables, called first-order Horn clauses.
- Clustering algorithms group the instances together based on the similarity or distance measures between a pair of instances defined in terms of their attribute values.

In conclusion, we can say that although there is much potential for machine learning techniques to be deployed for Semantic Web engineering, this is far from a well-understood area.

7.5 Ontology Mapping

With reuse rather than development-from-scratch becoming the norm for ontology deployment, ontology integration is an increasingly urgent task. It will rarely be the case that a single ontology fulfills the needs of a particular application; more often than not,