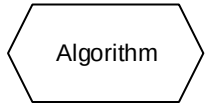
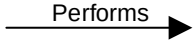
GR4ML – Analytics Design View

Element	Definition & Symbol:		Questions to ask to identify them*:
Analytics Goal	It shows the intention/kind of the analysis to be performed over the dataset. Three types of analytics goals are: Prediction Goal, Description Goal, and Prescription Goal.		• What kind of analytics (descriptive, predictive, or prescriptive) would be appropriate to generate required insights?
Algorithm	Algorithms are procedures and calculation steps that are needed to fulfill an Analytics Goal.		• What algorithm(s) exist for fulfilling the analytics goal at hand?
Softgoal	Softgoals represent quality requirements to be taken into account during design of the machine learning solution.		• What are the quality attributes or non-functional requirements (NFRs) are critical for users?
Indicator	Metrics that evaluate performance of the ML system in achieving the analytical goal.		• What numeric metrics would be used to compare/evaluate the algorithms? • Define the threshold (upper or lower) values for indicators (e.g., minimum required accuracy for predictive models).
Influence Link	They connect Algorithms to Softgoals and show how each algorithm would impact different Softgoal. They also connect Softgoals to Softgoals to show how they influence each other.		• How are the critical NFRs influenced by alternative algorithms? • How softgoals influence each other?
Means-end Link	Algorithms are connected to Analytics Goals through the performs link, showing a means-end relationship.		• What other algorithms could be used for fulfilling the problem at hand?

* These are sample questions and one may extend, modify, or customize them depending on the use case and context. Also they are not sorted in any specific order.