

## DEPARTMENT OF INFORMATION TECHNOLOGY

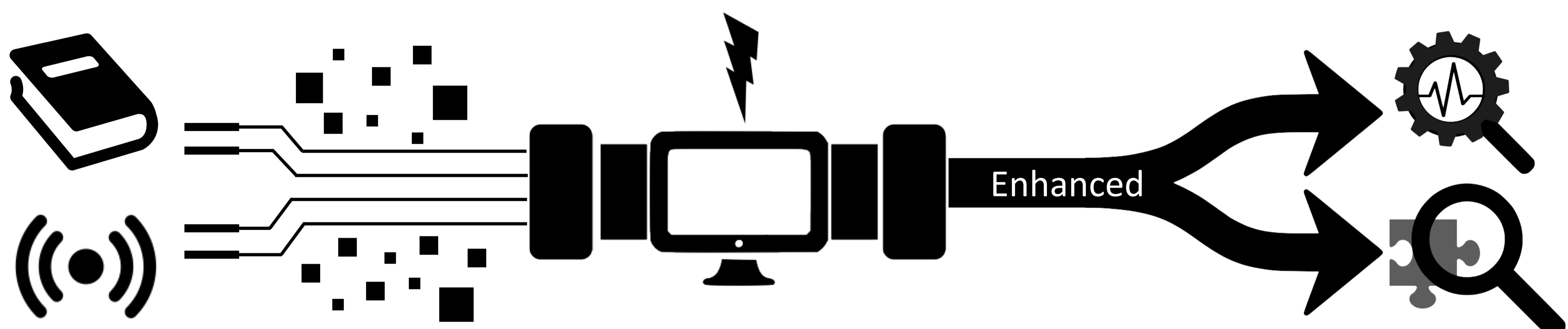
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# ADAPTIVE ANOMALY DETECTION AND ROOT CAUSE ANALYSIS BY FUSING SEMANTICS AND MACHINE LEARNING

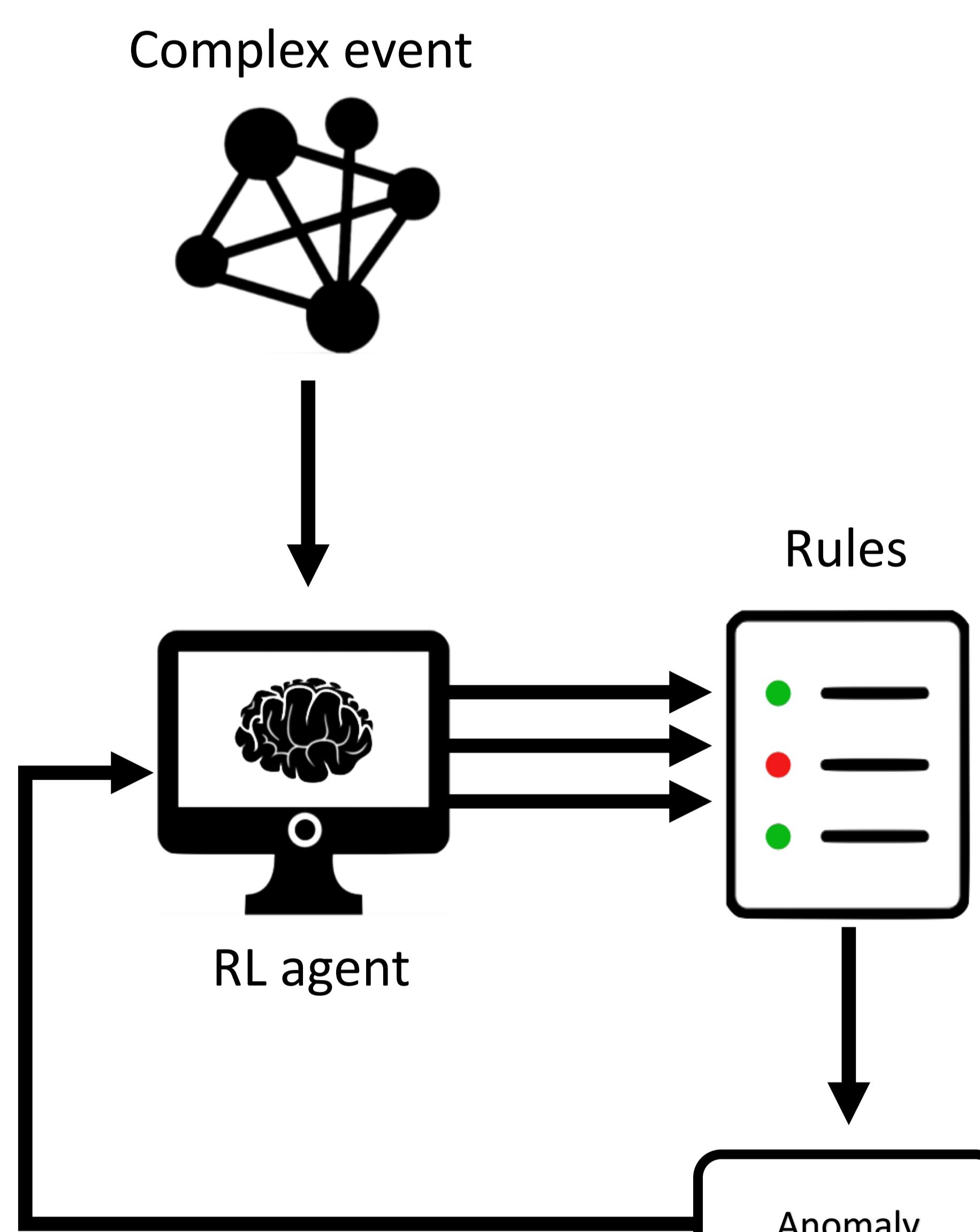
### Problem & Goal:

The anomaly detection and root cause analysis methods of today limit the use of the available domain knowledge due to the high engineering efforts. This results in tools which have difficulties to operate in changing environments.

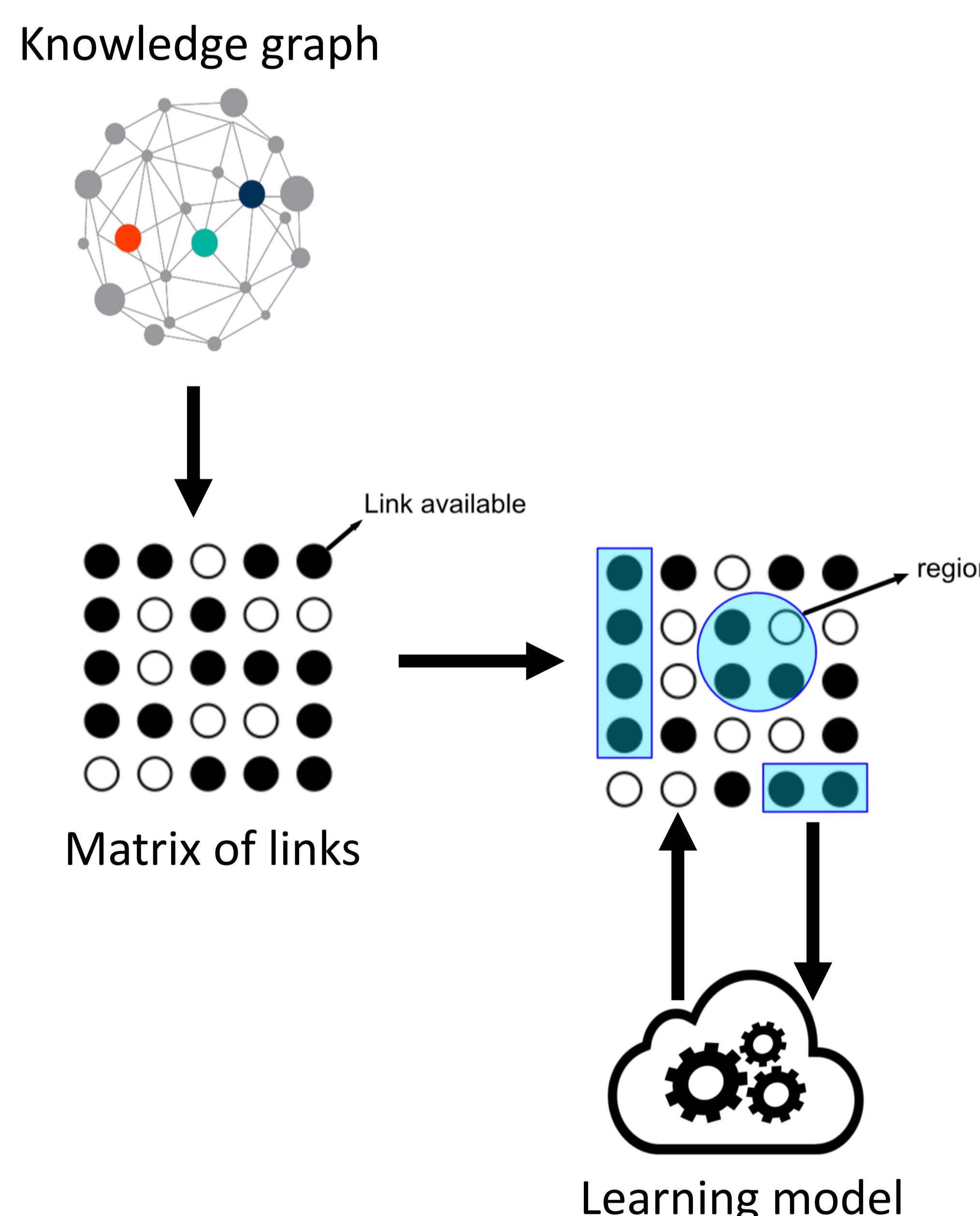
Incorporating the available expert information enables these tools to cope with changing contexts without much human involvement.



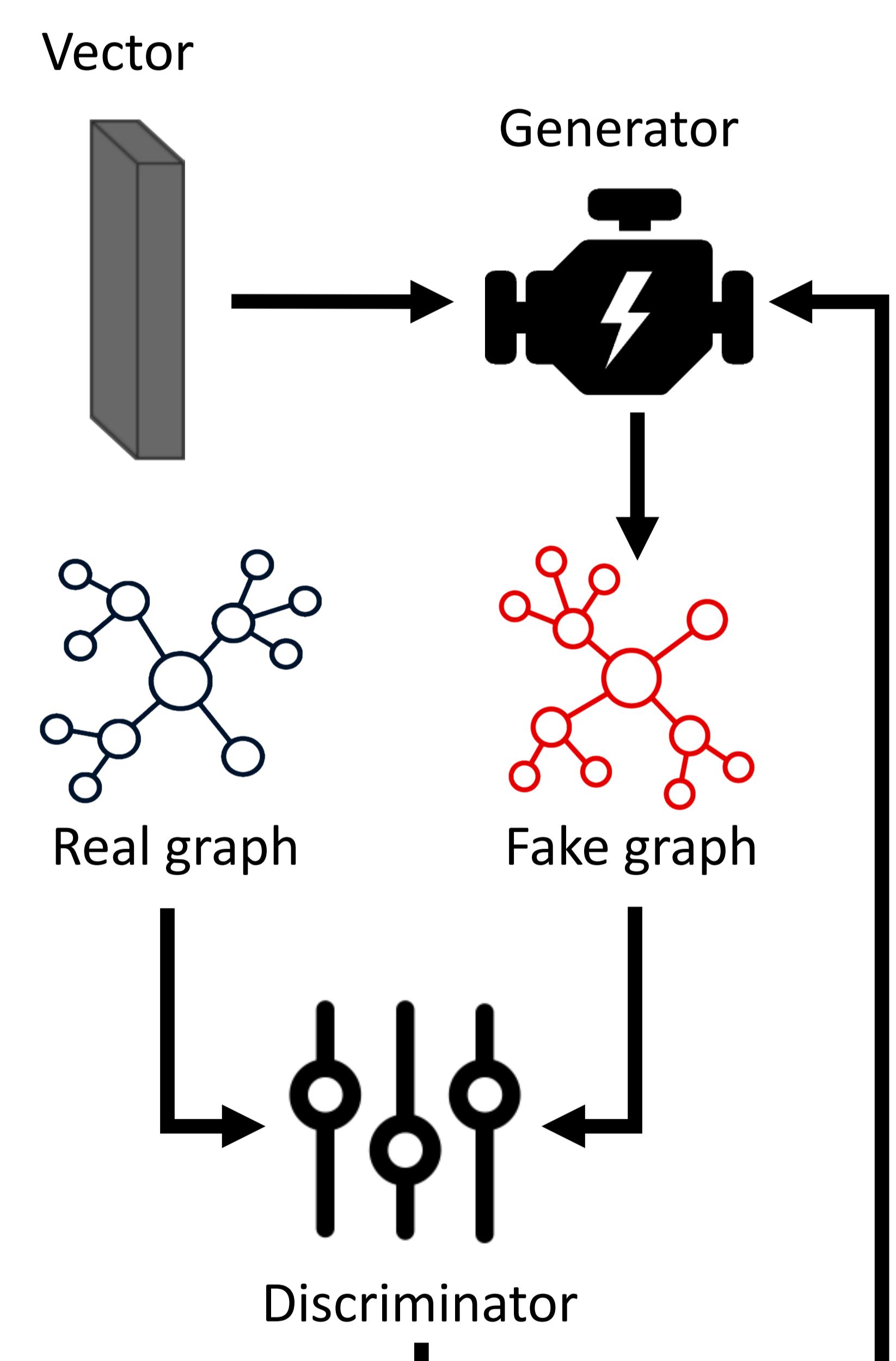
### Adaptive stream detection



### Embedded feature generation



### Causes from knowledge



### Evaluation:

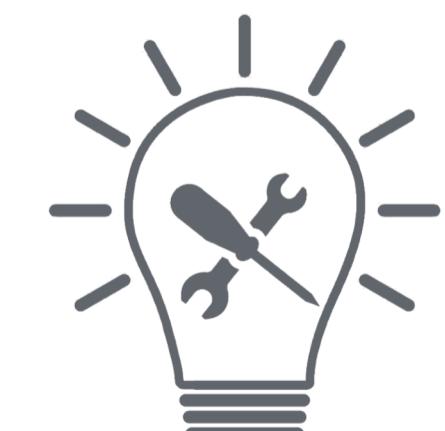
#### Standardised Datasets

Dataset	#Triples	#Instances	ML Task
AIFB	29,226	176	Classification (C=4)
MUTAG	5,700,371	340	Classification (C=2)
BGS	916,421	146	Classification (C=2)

#### Use Cases



Pervasive  
healthcare



Predictive  
maintenance