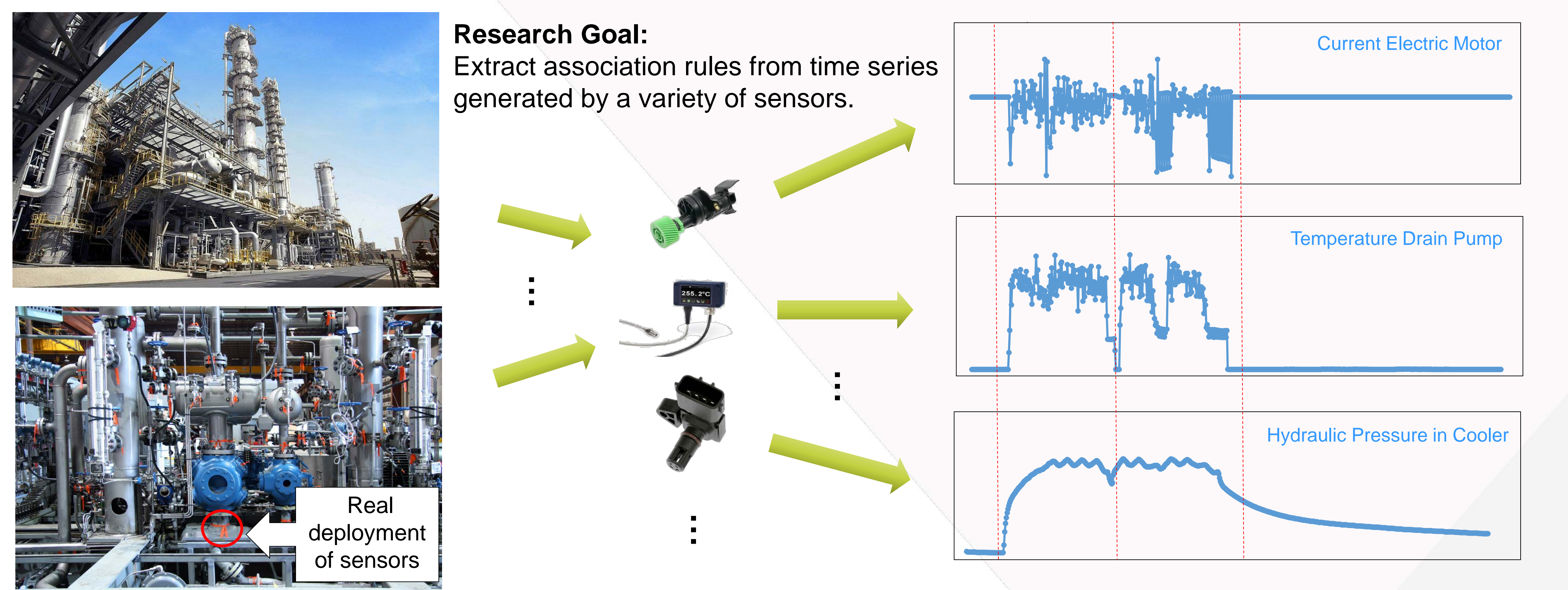


STAR: A Practical Framework for Sensor Time Series Association Rule Mining

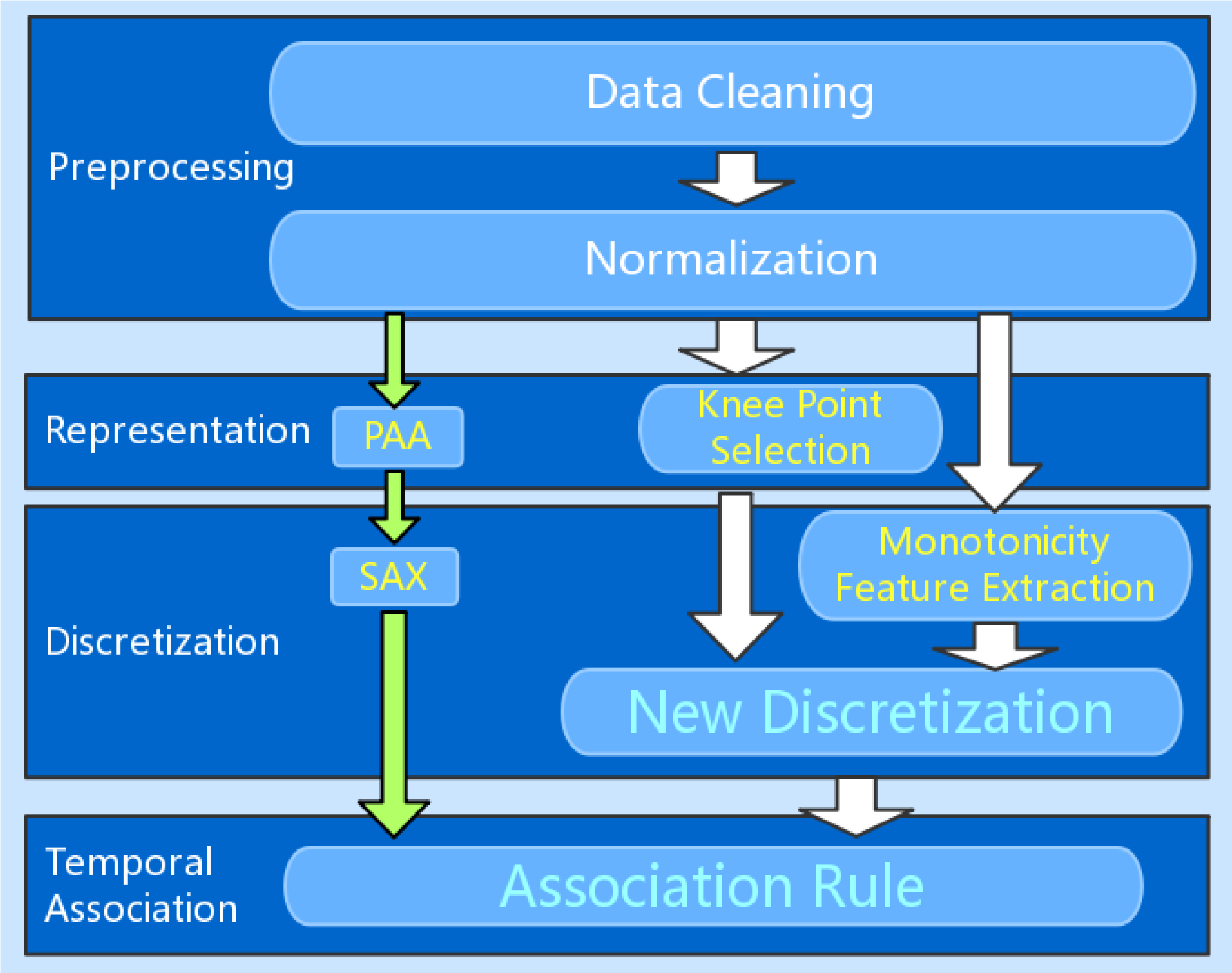
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Motivation



Roadmap & Methodologies

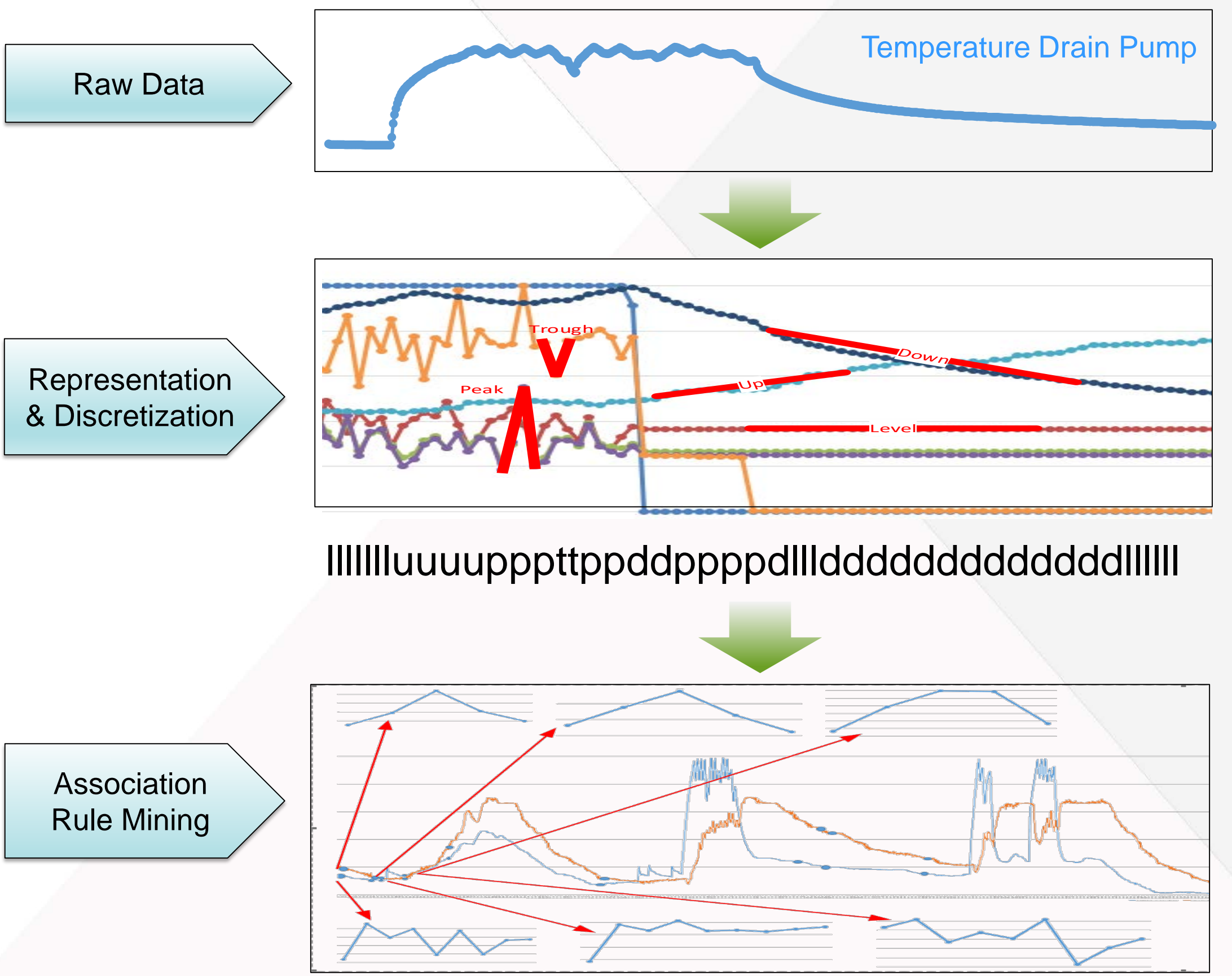


System Framework

- Propose a practical scheme that consists of time series preprocessing, representation and discretization for temporal association rules mining.
- Devise a novel discretization method that inherits the merits of both knee point selection method and monotonicity feature extraction.
- Present an Apriori-based algorithm that accommodates temporal characteristics among various time series.

Source code available: <https://github.com/gite360/161005MIUNProject.git>

Experimental Results



Classify	$\alpha > 0.05, \beta < 0.1$	$\alpha < 0.05, \beta < 0.1$
Size (KB)	129,825	30,621
Frequency Thres. (α)	0.05	0.05
Support Thres. (β)	0.1	0.1
Min Confidence	0.9	0.9
Window Size	15	15
Rule Number	2,660,000	1,210,000
Example	td , ld \rightarrow I I I I I I I I I I I I I I I I I I	ooooo , tt \rightarrow oooooo
	ldl , I I I I I I I I I I I I I I I I I I	oo , puu \rightarrow dpt

References

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Acknowledgment: This work was supported by Aston University Prize Scheme.