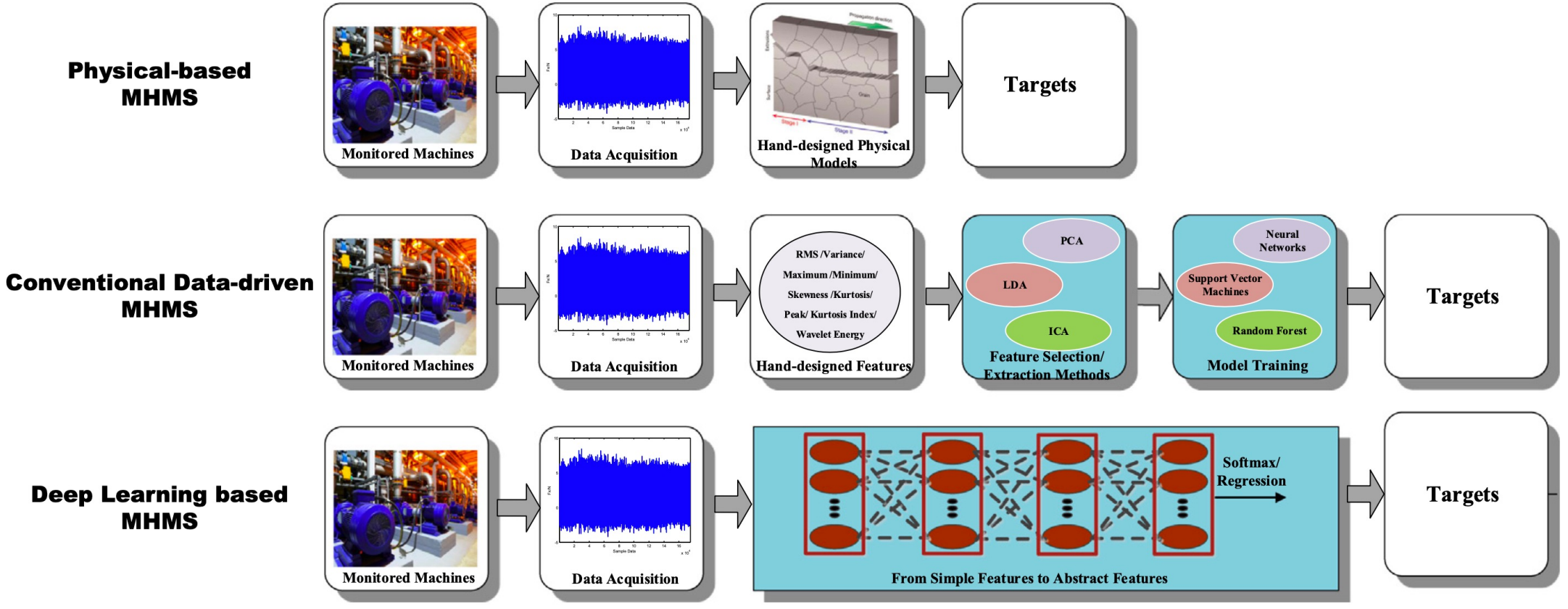
Physical-based MHMS
Monitored Machines
Data Acquisition
Hand-designed Physical Models
Targets
Conventional Data-driven MHMS
Monitored Machines
Data Acquisition
RMS /Variance/
Maximum /Minimum/
Skewness /Kurtosis/
Peak/ Kurtosis Index/
Wavelet Energy
Hand-designed Features
PCA
LDA
ICA
Feature Selection/ Extraction Methods
Neural Networks
Support Vector Machines
Random Forest
Model Training
Targets
Deep Learning based MHMS
Monitored Machines
Data Acquisition
Softmax/ Regression
From Simple Features to Abstract Features
Targets