

<b>Component</b>	<b>Manufacturing Process Monitoring</b>	<b>Disease Detection / Prediction</b>
<b>X</b>	% of acceptable products leaving the line	Existence or severity level of a disease
<b>Y</b>	Physical sensors time series (e.g. accelerometers), controllers, metrology systems (e.g., CCD camera images)	medical imaging (MRI), electronic health records (EHR), sensor data (e.g., EKG, blood pressure)
<b>Pathway</b>	Blue	Green
<b>E</b>	Frequency analysis from accelerometers, conversion of pressure sensor readings to pulse train for passing product, extraction of product corner points from images.	N/A
<b>F</b>	Concatenation of scalars (time series aligned by design of system)	Convert MRI to scalar pixel-by-pixel. Convert EHR to scalar by frequency count of words from custom medical dictionary. Fill data gaps with N/A.
<b>I</b>	Physics-based model of manufacturing process trained to flag defective products based on anomalous sensor patterns	Artificial neural networks configured for classification prediction
<b>K</b>	Physics of sensing system and sensors, image angle, desired product shape	Medical dictionary relating terms/dis
<b>Z</b>	Quantitative difference between calculated product shape/weight and desired product shape/weight	Categorization difference relative to doctors with expert knowledge in this disease family