Intelligent Transformer Fleet Management

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Edge-Triggered

Health Monitoring, Fault Diagnostics and Inventory Management

The Team

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Back End Developer

Rohit Rajhans

Front End Developer

Manan Soni

Back End Developer

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Product Design

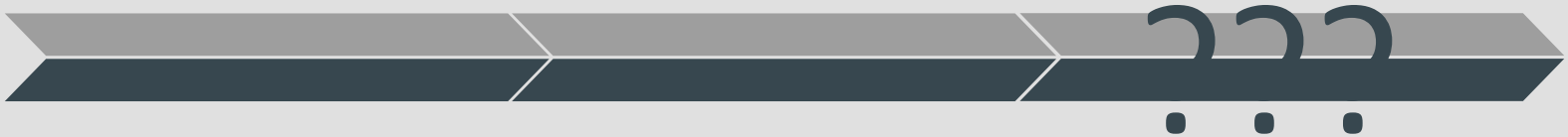
Neethu Joy

App Developer

Tanya Garg

Back End Developer

Edge-Triggered



Curative Maintenance

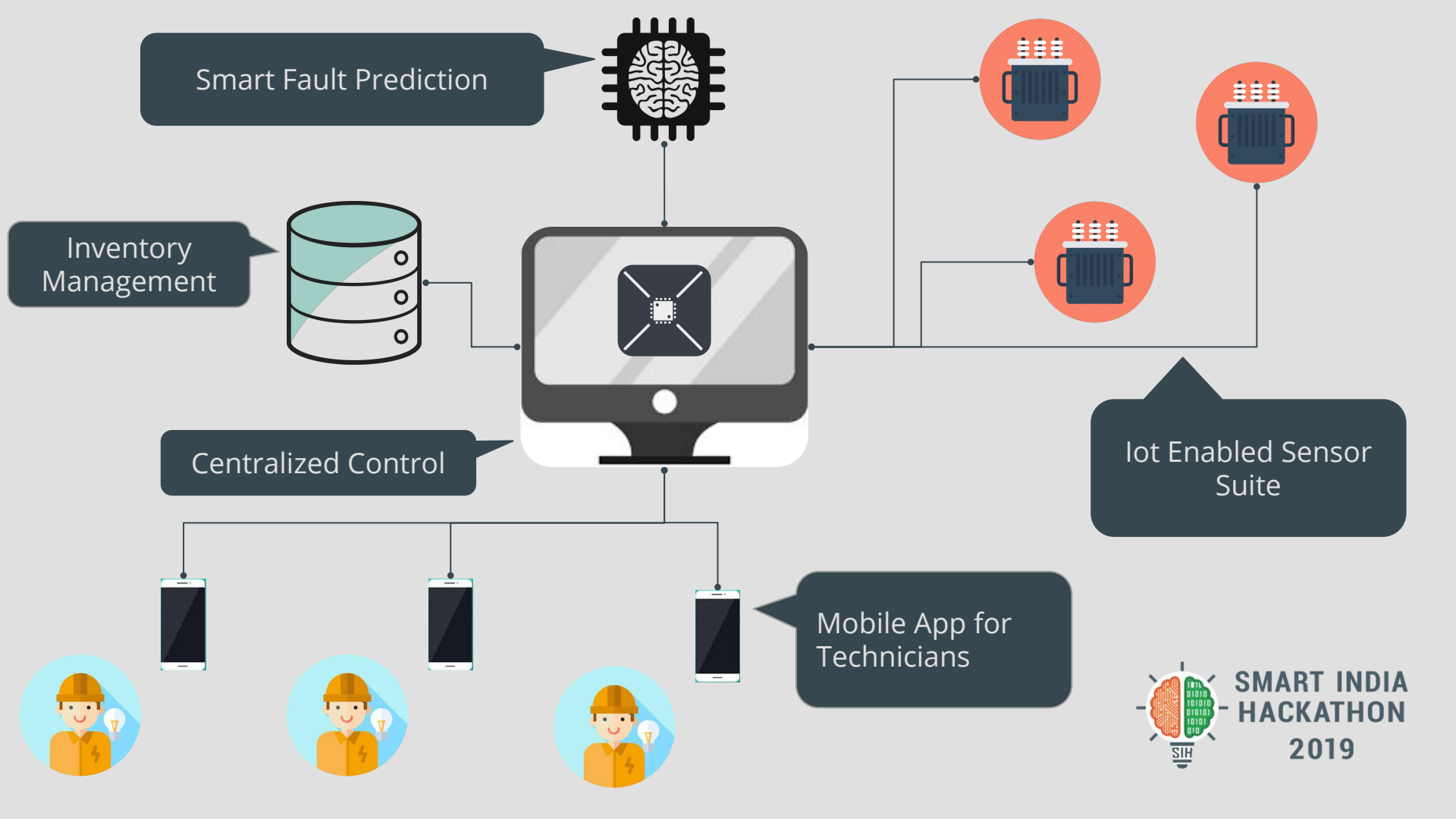
"If it ain't broken, don't fix it!"

Preventive Maintenance

"An Apple a day keeps the Doctor away!"

Predictive Maintenance

"An inspection without faults, is an inspection wasted."


Smart Fault Prediction
Inventory Management
Centralized Control
Iot Enabled Sensor Suite
Mobile App for Technicians
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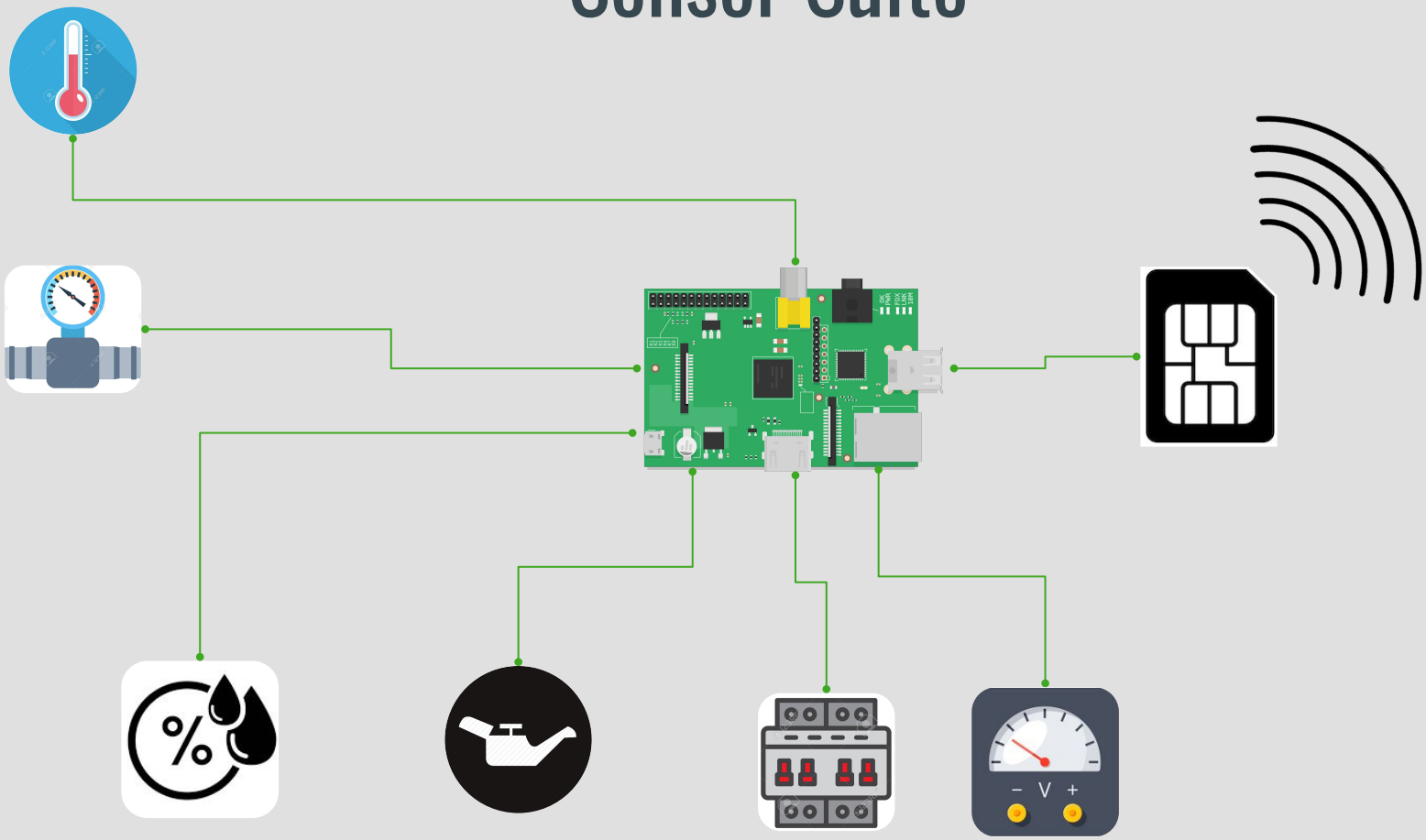
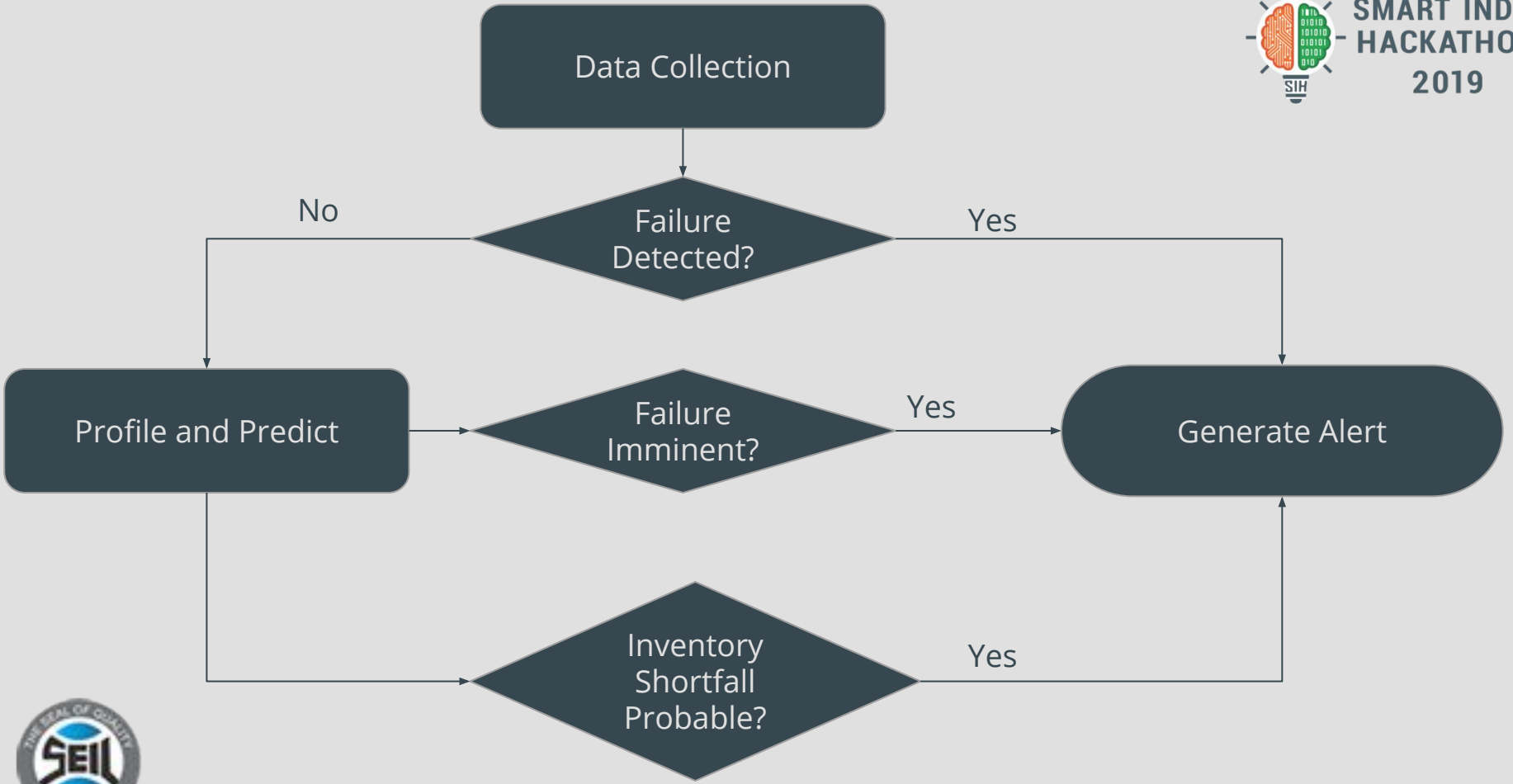
Sensor Suite




Data Collection
Failure Detected?
No
Yes
Profile and Predict
Failure Imminent?
Yes
Generate Alert
Inventory Shortfall Probable?
Yes

Technology Stack

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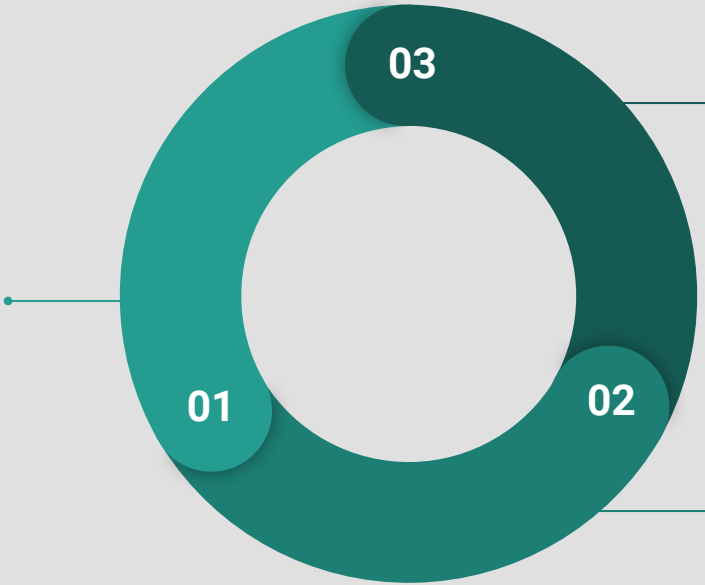
Employee Application
Mobile Application

Android based Application.

React Native



Data Harvest

We propose using a sensor suite centred around a Raspberry-Pi.

Simulated for Demonstration

Central Command
Web Application

Server Backend - Flask (Python)

Front End - JavaScript

SEIL SKIPPER

Why Automate?

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01	Lowered Reaction Time	• Real Time Monitoring and Fault Detection • Fault Prediction
02	Increased Reliability	• Predictive Maintenance
03	Operational Efficiency	• Leveraging Data Analytics

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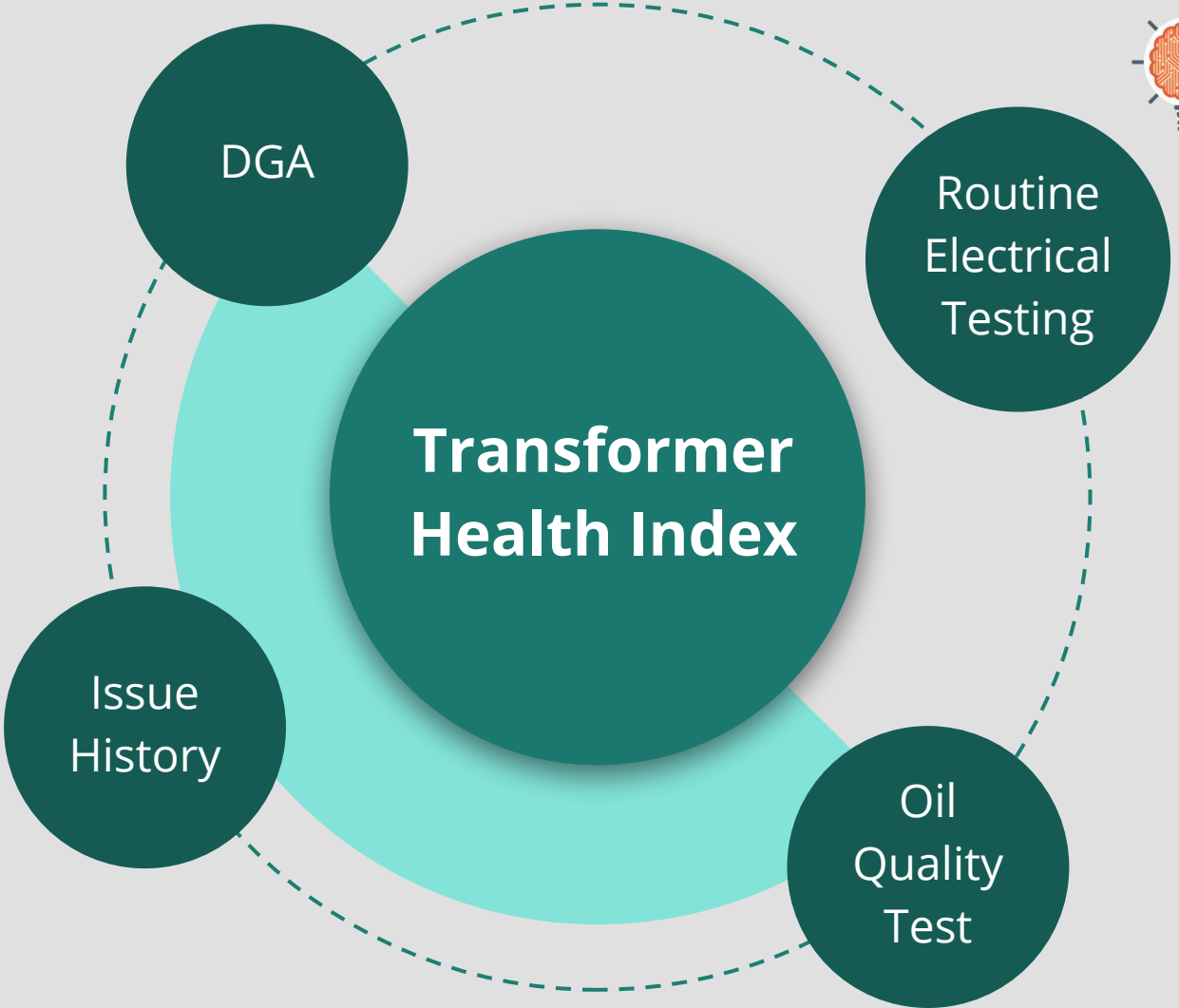

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Fuzzy Classifier

"IF %age of C_2H_2 is "less" AND %age CH_4 is "less" AND %age C_2H_4 is "high",

THEN it's most resembles a thermal fault with temperatures greater than 700*C"

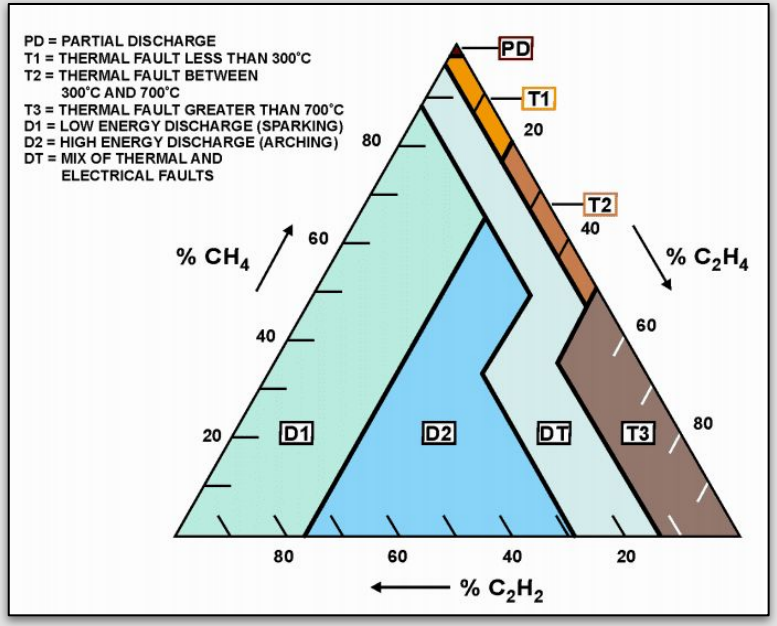

Fig- Duval's Triangle
Example of a Fuzzy Classifier.

Questions?