Accella AI

Use Case

Predictive Maintenance - Rivet Guns

NEED

Avoid unplanned breakdown of rivet gun robots which results in unplanned downtime of the entire manufacturing line for undercarriages and causes *excess* repair charges

OUTCOMES

- AI-based prediction of estimated days to repair reduces unplanned downtime of rivet guns and
- Avoids cost of expensive serving and repair of broken rivet guns
- Reduced losses due to unplanned line downtime

CUSTOMER: Tier 1 Automotive Part Manufacturer

CHALLENGES

- Improve health status monitoring of rivet gun robot
- Simultaneously reduce maintenance cost

SOLUTION

We developed and deployed a machine learning model that determines the remaining useful life of the rivet gun tool

PROCESS

- Collect rivet gun error messages and analyze repair history
- Use that data to train an AI-model to calculate the remaining useful life of the equipment
- Implement the AI model and continue training it with additional data over time which boosts accuracy of the model
- Predicted remaining useful life of the equipment is used to build a maintenance calendar.

Display Historical Data — Operator View

DateTime	DeviceID	ToolID	Issue Description	PM to Date Cycles	Est. Days to Repair
2021-12-30T00:00:00	167-02-80-R2	1	maintenance PM	0	5
2021-05-01T00:00:00	167-06-1030-R1	1	1M Cycle PM Due	1025639	9
2022-04-25T00:00:00	167-06-1060-R1	1	Absolute posistion inv	610496	33
2021-04-24T00:00:00	167-06-1060-R2	1	1M Cycle PM Due	1196752	50
2021-09-29T00:00:00	167-06-1060-R2	1	broken shear pin	335300	60
2021-10-13T00:00:00	167-06-1060-R2	1	Roller Screw Abrasions	0	72
2020-11-11T00:00:00	167-06-140-R1	1	Questionable Shear Pir	132365	102
2021-12-30T00:00:00	167-06-140-R1	1	1M Cycle PM Due	1211902	150

Contact Us

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