Project Proposal – Designing an Object Detection System Trained on Fault Analysis

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**Introduction and Problem**

In the work industry the fastest growing technology is automation. Everyone wants to make things faster, finishing a task that takes a 40-hour work week to complete in 4 hours improves work efficiency and saves a lot of time and money. With this growing technology comes many problems such as production failures and insufficient completion. Designing a detection system that can detect these faults will help improve productivity and reduce risk mitigation.

**Objectives**

The goal of this project is to design a CNN system that can be trained using images of any failure imaginable in the work industry. Whether it’s welding errors, production floor errors, product errors such as cracks or damage, this detection system will spot the problem. With this system a company can train their network and use it to improve automation and efficiency.

**Design Criteria**

* Speed of detection
* Speed of Network
* Accuracy of Network
* Optimization of code

**Customer**

* Companies looking to automate their workflow
  + Automated welding
  + Automated car check
  + Automated speed detection

**Value Proposition**

This product will improve workflow and allow companies to include automation in their skillset, improving productivity and efficiency. If this product is completed, companies will be able to buy a package designed to improve their automated tasks.

**Design Features & Description**

* Raspberry Pi 5 16GB RAM
* HAILO8 AI Hat with 26 TOPS

**Timeline**

