



Visual Recognition Machine Learning Tool for Product Quality Control

Paid internship(s) after the Field Session may be offered to students. After graduation may turn into full-time positions.

Client

Jeff Beyle, CEO of Sticker Control – www.StickerControl.com jbeyle@stickercontrol.com

Company Background

The Sticker Control software system helps small and mid-size manufacturers and distributors use IoT sensors (RFID, barcodes, GPS, and more), digital forms, and AI-driven models and algorithms to:

- Automate manual processes
- Eliminate paper and spreadsheets, and make data accessible where it is needed, when it is needed, at all levels of the organization
- Improve operational visibility, including ensuring activities are performed on time, every time and exceptions are flagged in real-time
- Optimize operations and eliminate surprises regarding the location, condition, and stocks of assets

We help companies gain the benefits of advanced technologies without needing large company resources.

Easy to adopt. Straightforward to use.

Description of the Project

Last May/June, a team of 4 students from School of Mines built out an initial version of a visual recognition machine learning tool for us. This tool helps warehouse workers process and categorize used footwear being returned by consumers and destined to be recycled or resold (depending upon the condition of the footwear). This tool uses a photo of the used footwear to detect the product SKU (so we can associate the product description and other metadata provided by the footwear brand with the item automatically).

This year, we want to extend that tool so that our customers can use it for product quality control purposes. We have two potential customers who are interested in this tool. One potential customer manufactures circuit boards and wants to validate that the components on the board that are installed by hand have been installed properly. The other potential customer 3D prints metal components for a variety of uses and wants our tool to perform some of the product QC checks they do on each part.

This phase of the project will build upon the last year's team's success (i) to allow the tool to work to perform the product QC function (most likely on the circuit boards), and (ii) to develop the system user interface (according to specifications that we provide) so that our customers can use the tools effectively.



Suggested Team Size and Location

3 – 5 students. Work can be done from CSM campus or from home/any other location.

Skills/Experience

We use the following technology:

- C##
- .Net Core
- VUE
- GIT
- JavaScript
- CSS / Tailwind CSS
- Azure

We will use Google AI tools for this project.

We understand not all the students in the group will have the desired technical skills. If the students can problem solve and have a willingness to learn, we will work with them to ensure that that they do well on this project.

Notes:

- All intellectual property developed as part of this project will be owned by Sticker Control.
- We will ask students to sign a non-disclosure agreement (it will not be onerous or particularly long).