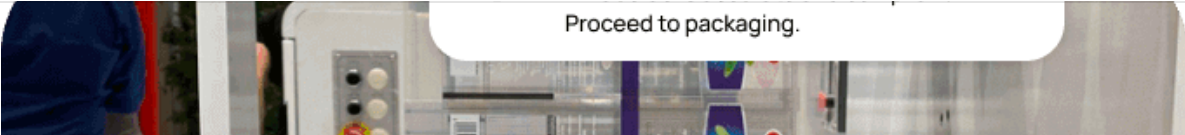




# AI-driven Label Verification System

Our AI-powered label verification solution for NSG Group ensures unparalleled precision in label printing. It employs advanced computer vision techniques, real-time verification against predefined criteria, and seamless integration of label templates to effectively prevent errors and enhance overall product accuracy.





The Hackett Group Announces Strategic Acquisition of Leading Gen AI Development Firm LeewayHertz [Read more](#)





## The Problem

NSG Group encountered challenges in its label printing process, with occasional errors leading to the production of incorrect labels. The critical requirement was to ensure that labels, including QR codes, barcodes, and alphanumeric information, followed the required format and contained all necessary information.



## The Solution

In response to the label printing issue NSG was facing, LeewayHertz deployed an AI-powered label verification solution. The process involved capturing and processing images, employing computer vision techniques for label detection and template matching, and integrating NSG's label templates for real-time verification. This transformative approach ensured that labels adhered to predefined criteria, preventing the printing of incorrect labels and enhancing the overall accuracy of NSG's products.



# Features of the Solution



## Image Capture and Processing

The solution captured frames from NSG's cameras, processing them to identify and isolate individual labels within the images.



## Label Detection and Template Matching

Computer vision techniques were incorporated to detect the presence of labels in each frame. Upon label detection, the solution matched it with the templates, ensuring alignment with the required format.





## Data Extraction

The AI system extracted information such as alphanumeric details, QR codes, and barcodes from the detected labels.








## Verification and Response

Extracted data was compared against predefined criteria to determine label correctness, and a real-time response indicating label accuracy was generated and integrated into NSG's system.

# Technologies Used to Build the Solution



IDE:	<div> VS Code</div>
Framework:	<div> Django Python-based</div>
Tools:	<div><div> CV</div><div> OCR</div><div> Pytesseract</div></div>



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# LeewayHertz

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