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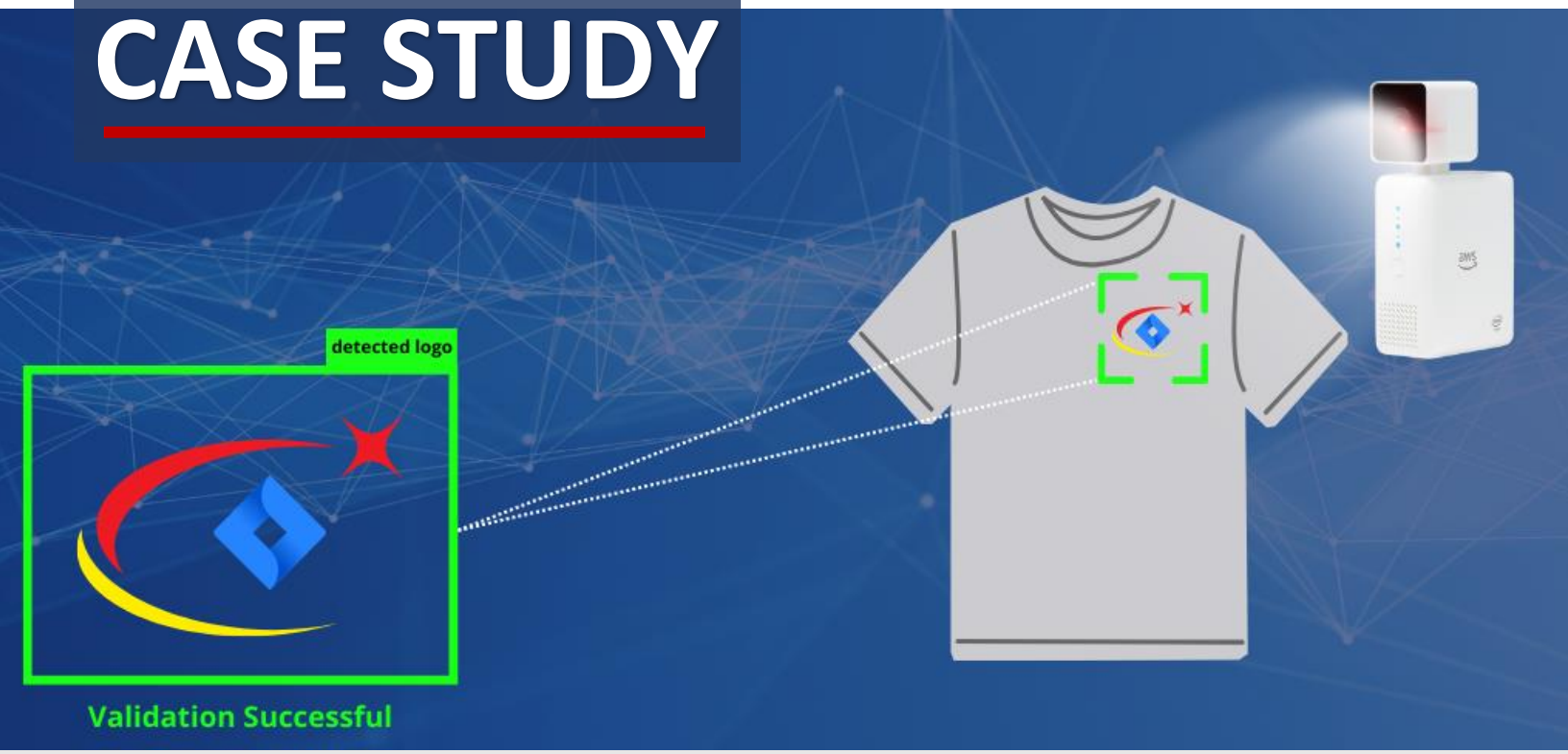
CASE STUDY



Logo Localization for Brand Monitoring using AWS ML services and DeepLens

Executive Summary:

The client is US based sportswear manufacturer. They produce footwear, apparel, and sports goods with company logo branding for their factory stores where it can be purchased. They were looking for logo validation solution where the design needs to be validated once the product is manufactured to comply with approved product design.

The client approached Softnautics to help them develop an AI model based on AWS ML services and Deep-Lens to detect and localize their brand logos on their certain range of products. Logo localization locates the presence of objects in a logo (abstract/figurative design) and indicates their location with a bounding box/area. The solution is targeted to help logo printing companies, retailers, and wholesalers to automate the design validation after printing.

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Business Challenges

To keep up the brand's reputation, client was looking for a Machine Learning expert to help them develop logo localization model that can identify and locate logos that gets printed on the client's product like apparels, caps, footwears, etc. and validates that the product logo appears exactly as it was intended to be in product design phase.

Solution Provided

Softnautics helped the client by building and deploying lambda function and logo detection model on AWS DeepLens, there by calling Rekognition API to detect the logo and supply image co-ordinates as to where the logo is detected on product image. The detected logo location is compared with logo location of product art and if variance between detected locations is beyond threshold it will publish message to SNS topic, which can then trigger an alert notification.

- ✓ Assisted the client in identifying and building business specific logo detection AI model
- ✓ Developed lambda function to detect logo and send product image and Deeplens MAC address to S3
- ✓ Deployed the model and performed analytics on DeepLens
- ✓ Developed logo localization using computer vision with enhanced image quality and notification
- ✓ Functional validation of model and evaluation report generation

Tools & Technologies

Cloud Platform/Services

- ✓ AWS Rekognition
- ✓ AWS ML Services

Frameworks

- ✓ AWS Lambda
- ✓ AWS PubSub

Tools

- ✓ Jupyter notebook
- ✓ Open CV
- ✓ S3 Bucket
- ✓ Cloud platform dashboard

Programming Languages

- ✓ Python

Operating Systems

- ✓ Linux, Ubuntu

Business Benefits

Delivered Machine Learning based real time validation of logo locations on final products as compared with product design, eliminating human errors

Improved sorting of products items for shipping and discarding