

# FashionPhile is the largest and most trusted specialist in Luxury Goods & Jewelry

## Engagement Overview

FashionPhile engaged TO THE NEW to build an AI based optimized product image classification and product price-prediction model using AWS to ease the procurement process.

## The Client

FashionPhile is the ultra-luxury recommerce leader, focusing on high-quality and exclusive ultra-luxury brands, specifically, handbags and accessories, including watches, jewelry, and shoes. FashionPhile excels in first-class digital and omnichannel experiences, as well as luxury in-person services.

## Business Challenge

At the FashionPhile web portal the customer submits an image of a luxury good like bags, jewelry etc. to sell.

- Identification of Brand and its style name becomes very challenging when there are thousands of such items available
- Automation of process to filter the correct relevant image and identify its style name is the key challenge
- The products, especially luxury bags are in high demand and are received for resale in large amounts. Each of the bags has to be audited and then priced manually
- The problem is to create an automated Pricing Engine that can do the pricing by taking in account style-wise past behavior

## Engagement Scope

- Minimizing manual interventions
- Automatic filtering of quality images
- Automate image orientation correction
- Automation of style classification/ identification
- Cost Optimization

Industry: Ecommerce



- Goods price prediction engine
- Faster Go-to-market process

## Solution Overview

TTN used AWS SageMaker Image Classification Algorithm and AWS Forecast service having inbuilt AI/ML Algorithms.

### AWS SageMaker Image Classification Algorithm for:

- **Image quality check** - Identifying the noisy and not-useful images. Filtering them out from the system data to improve the further processing
- **Image Orientation** - Incorrectly oriented images are identified and corrected. The correct orientated images are further used for processing
- **Image Classification** - The images are augmented/preprocessed. The images from different brands are classified amongst their respected styles.

### AWS Forecast service having inbuilt AI/ML Algorithms for:

- **Identification of Trends and Seasonality using Prophet and Amazon's DeepAR+ algorithms**  
Identifying the Trend patterns and cyclic seasonal patterns that help in understanding of the behavior of the customer purchase throughout the year.
- **Cost Optimization using Amazon's DeepAR+ algorithm**  
The optimization of the product pricing according to several factors such as current inventory, style in demand, recent sales, product conditions and specific features.
- **Inventory Planning**  
Better management of the product inventory, stocking of products as per the predicted demand for specific brands and styles in the corresponding season.
- **Price Elasticity using CNN-QR algorithm**  
Identifying the change in the price and quantity of the product. Forecasting the demands of products as well as the amount of time a product is expected to sell in.

## Business Benefits

- The product image finds the best suited style id through AI models.
- The complete process is automated to check the image quality, image orientation and its classification.
- The usage of image classification adds value to the portal of identification of styles at the moment when a user sends an image
- Maximizing the annual revenue due to the optimized pricing of the products
- Better understanding of customer purchase patterns which allows FashionPhile to make suitable strategic decisions
- Reducing the overall amount of time required to sell the product.
- Providing an estimate of the sale price of the product that is being submitted for re-selling by the user in real-time.

## AWS Services used

- AWS Sagemaker
- Sagemaker Image classification
- AWS Forecast
- AWS EC2
- AWS S3
- AWS RDS
- Python
- Flask
- MySql
- MongoDB

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