Success Story

Developing an AI-based image editing solution for one of India's largest online jewelry marketplaces- eJohri

Client:

Ejohri Jewels Hub Pvt. Ltd

Industry:

Digital Commerce

Country:

India

Our Role:

Software Engineering

About the Client

eJohri is India's first omnichannel jewelry marketplace. The platform functions as an eCommerce solution for people to buy jewelry online and discover offline retailers nearby to make an offline purchase. It has jewelers from metropolitan, urban, and suburban cities. The jewelry aggregator offers a diverse range of jewelry including gold, silver, kundan, platinum, zirconia, solitaire, etc. The average ticket size for online sales is INR 50,000 through the platform.

Key Facts

98%	**>95%**	**100,000+**
increase in efficiency	accuracy rate	images analysed & corrected

The Situation

For jewelers to register to the eJohri platform and start selling, they need to create a portfolio of their products. This portfolio, in the form of jewelry imagery, is sent to the eJohri team where is refined using photo-editing tools. This process included removing background, shadows, or any unwanted items in the images for a better presentation of products on the platform.

On average, this practice would take 2-3 hours for a single image to edit, which slowed down the jeweler's onboarding to the platform. As the business expanded, it became inevitable for team eJohri to automate this image editing cycle so that jewelers can quickly onboard and start selling on the platform.

Hence, eJohri was on the lookout for a technology partner who could develop an AI-based image editing solution to accelerate the onboarding process. Some of the key expectations of the eJohri team were to

- Evaluate the most suitable, AI technology to train machine learning models and edit images in bulk

- Augment the existing data set of images to ensure a high accuracy rate of the ML model

- Ensure that the quality of the image is exactly the same as shared by the jeweller in his portfolio of products

The Solution

Team Daffodil analyzed the existing business challenges and as a solution, tried computer vision techniques to remove the background from the images. Edge detection, image thresholding, unsupervised learning (K-clustering), etc. were some of the techniques that were examined individually and in combination to resolve the problem. However, these techniques worked differently on different types of jewelry and posed accuracy concerns. For that reason, computer vision techniques were dropped and machine learning models were chosen as the solution to resolve the problem.

One of the prime challenges in building the ML model was the limited data set. To augment the data set and train the model for maximum accuracy, the transfer learning technique was utilized. This allowed team Daffodil to train the model on a generalized data set of jewelry.

This fundamental model training overcame the limitations of the finite data set available. The machine learning model thus created had an accuracy rate of 95% and saved several man-hours for the eJohri team in the image editing process.

The Impact

The machine learning model allowed the eJohri team to increase the efficiency in image editing by 98%. An image that would otherwise take 3-4 hours to edit in photoshop could now be edited using the ML model in just 2-3 seconds.

Services Used

Product Engineering

AI Solutions

Technology Stack

- python™
- Convolution Neural Networks
- Computer Vision
- Image Segmentation

About Daffodil

For more than 20 years, Daffodil Software has been a trusted software technology partner to organizations across the globe. We take pride in our ability to look beyond technologies & deliver innovative solutions.

Daffodil is a CMMI level 3 accredited organization with innovation, tech agility & process orientation rooted deep within the core. Our team of 1000+ technologists strive to shape the tech industry and help businesses elevate their value proposition through technology.

Technology Partnerships & Certifications

Microsoft Partner Silver Application Development partner / **Microsoft Partner** Silver Collaboration and Content	**Google** Cloud Premier Partner	**aws** partner network / Advanced Consulting Partner
salesforce registered consulting partner	**CMMI** level 3	**PubNub**
CERTIFIED ISO 9001:2015 COMPANY	ISO 27001:2013	ISO 20000 International Organisation for Standardization

Awards & Accolades

Deloitte. Technology Fast500 APAC Winner	**IT EUROPA** EUROPEAN IT & SOFTWARE EXCELLENCE AWARDS	zinnov **ZONES**	Great Place To Work. Certified INDIA
W mobileweb award 2020	INDIA'S MOST ADMIRED BRAND 2020 INDIA'S CHOICE	MUSE DESIGN AWARDS 2022 SILVER WINNER	THE ECONOMIC TIMES BTb BEST TECH BRANDS 2021