

Tech
Mahindra

Cognitive Signature Detection & Verification



Connected World.
Connected Experiences.

A cognitive object detection solution which would intelligently detect a human signature from a given digital document and validate it against the master signature. The solution even has the capability to segregate between a human signature and other human written scripts

The Customer

A member of Fortune 500 list of the largest United States corporations by total revenue. A multinational investment bank and financial services company with offices in more than 42 countries and more than 55,000 employees, the firm's clients include corporations, governments, institutions and individuals.[]

Challenges

- The variations in the data by itself was a very big challenge for us.
- More than thousand variants of forms are currently used by the organization across the globe.
- To frame a generic solution for all of them meant a huge challenge for us and the solution can't accept any latency at all in processing.
- The nature of transactions involving huge financial aspect to it meant we can't accept false positives.

Solution

Build a solution using open source technologies, models and advanced architectures which would cognitively detect a human signature from a given digital document. It would also do proper a differentiation between signature and other human scripts in a given document.

- Data Preprocessing –The data provided were scanned documents and common issues like rotation, inclination, blurred and inconsistent scaling issues were present across them which need to fixed.
- Model Building – Various object detections approaches/techniques (Yolo, Resnet, retinanet etc.) were evaluated and customer models where build, The model with best performance and accuracy was selected. The model also had a manual approval path for those forms which failed in the automated process to ensure the customers had no hindrance.
- Model deployment – The deep learning object detection model could be deployed cloud independently.

Value Delivered



The automated signature detection and verification meant a huge savings in terms of time and money.



The manual process of validating signatures which is the follow up process of signature detection was implemented using AI and processing was reduced drastically, which meant those resources could be used productively else where.



The proposed solution ensured reduction in the processing time for these forms and also any human error due to fatigue was eradicated. This was achieved using object detection and comparison techniques.