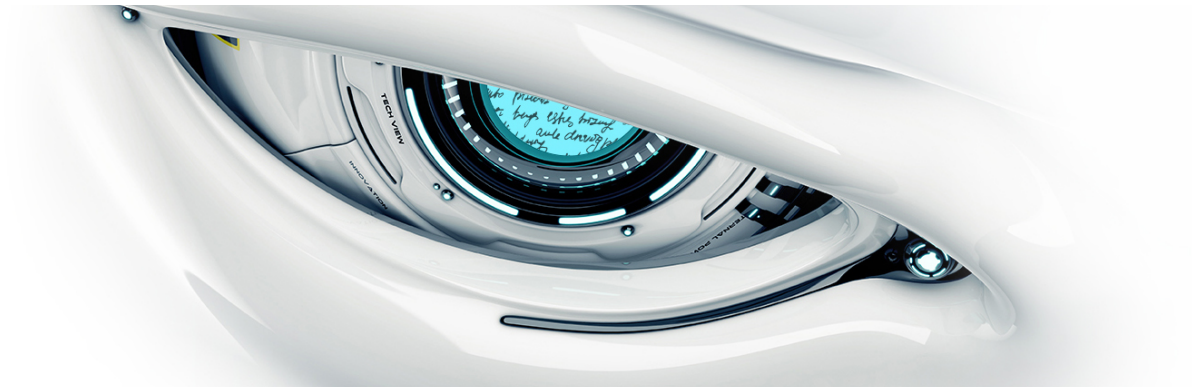
docbrain

Product overview

AI MADE EASY TO RETHINK DOCUMENT PROCESSING

docBrain is the only document-centric AI platform that allows custom training of neural network models while facilitating the deployment of unique solutions for complex document challenges



UNPRECEDENTED CUSTOMIZATION POSSIBILITIES

When it comes to data extraction, there is no "one-size-fits-all" solution. Moonoia has learned this after years of handling difficult-to-read documents (unstructured, handwritten, deteriorated) and creating bespoke solutions for its customers.

To enable companies to take full ownership of both the creation and the deployment of data extraction solutions, docBrain has evolved from a point application into an industrialized, multi-purpose, document-centric platform.

Today, docBrain offers advanced, AI-powered, ready-to-use extraction capabilities with built-in flexibility to adapt for further training and new experiments.

UNPARALLELED READING PERFORMANCE

Automation is nothing without accuracy. Service and software providers have always tried to automate data extraction but traditional OCR is simply unable to achieve high accuracy levels. Manual data entry and validation is still required for many complex processes. However, manual intervention is error-prone and creates friction in document workflows - leading to higher processing costs, longer turnaround times and poor customer experience.

Artificial intelligence and machine learning are here to change that. Since 2015, Moonoia has been experimenting with self-learning algorithms, training docBrain to perform complex processing tasks at accuracy rates higher than human-led validation. docBrain has proven its value and reliability via point solutions that are in production since 2016.

CONCEIVE

With docBrain, data scientists and solution engineers can train their own models, configure their own pipelines and design, from the bottom up, unique solutions for very specific business requirements. This function is called “Conceive” because the resulting models, pipelines and solutions are the users’ own creation.

Training – or experimenting with – docBrain’s models is a supervised learning process that requires:

- A clear scope. What is the business use?
- Datasets. Do you have enough documents to train the system with?
- Choosing which model to train. Check the docBrain catalog.
- Validation. Assess the newly acquired skills using new documents and retrain, if necessary.
- Integrating the trained model into a pipeline to deploy it

DEPLOY

When all trained models and configured pipelines from the previous Conceive stages are deployed, docBrain becomes ready to be used as a solution by the end customer. The deployment process is therefore provisioning a working environment containing all components for the next stage, Consume.

Redeployment is also possible. Users can recreate a new environment from baseline configuration, clone or duplicate environments.

CONSUME

Once the trained models and configured pipelines are deployed and validated, an API provides machine-to-machine interoperability for the exchange of incoming and outgoing data between docBrain and the customer business systems. This function is called “Consume” because docBrain becomes a Solution-as-a-Service with many capabilities available off-the-shelf.

The docBrain catalog also offers already trained, proven models. These algorithms and neural networks result from previous efforts of docBrain, partners, customers and the open source community. Together, they represent very powerful machine learning capabilities. These proven models can be combined into slick pipelines to improve model effectiveness and reduce testing time, shortening the implementation time (a matter of weeks) and providing the customer with faster implementation benefits.

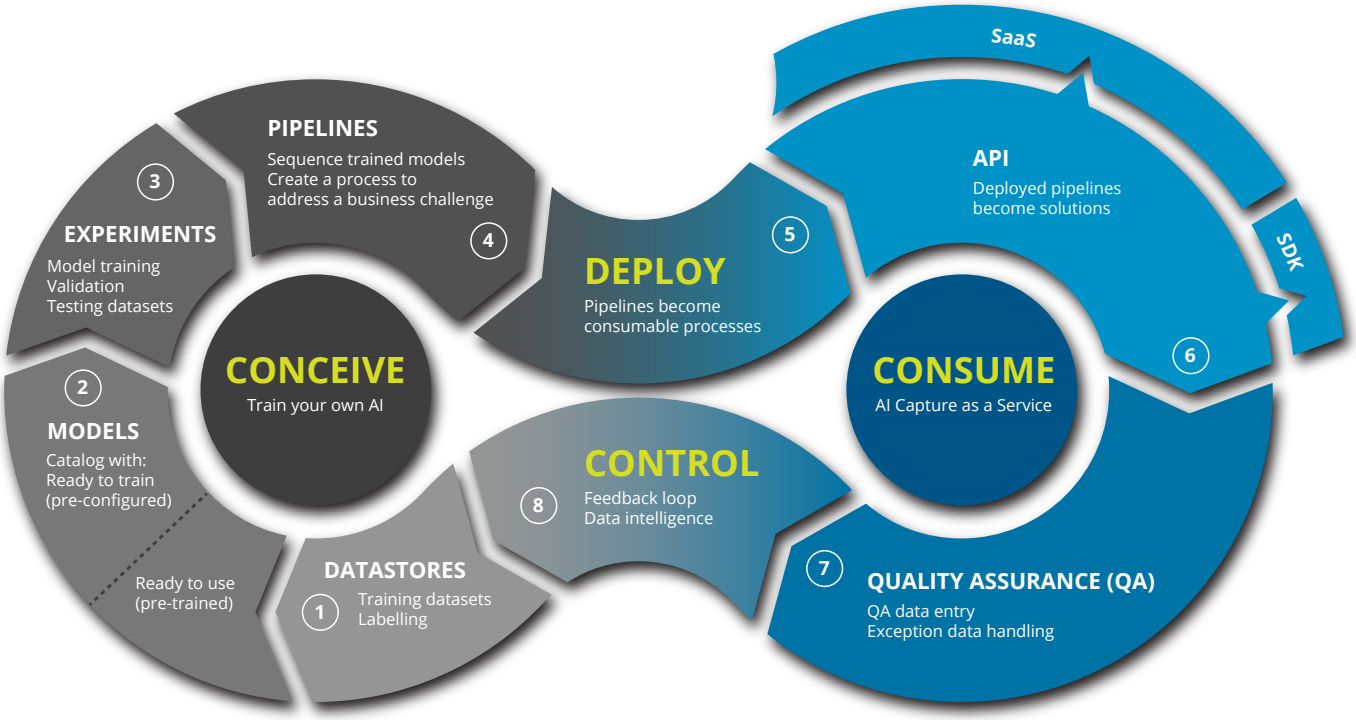
CONTROL

Data scientists can perform quality assurance (QA) and exception data handling via the web interface during the process execution (aka the “Consume” stage), transferring the data intelligence back to the “Conceive” stage for re-training purposes as part of a continuous improvement effort to update and refine a neural network model.

This feedback loop ensures the unparalleled accuracy that differentiates docBrain as an advanced data extraction tool.

DOCBRAIN AT A GLANCE

The term “platform” encompasses the docBrain software, the docBrain neural network modules, the various stages needed to train and/or use the modules, the pipelines in which the modules are being arranged for production, the API connecting to the customer business systems, the private cloud environment and the docBrain related services.



BENEFITS

Automate data capture and validation

Monitor data quality from input to output

Read handwritten documents with unparalleled accuracy using proven, pre-trained models

Improve the quality of existing scans

Reduce manual document handling and CAPEX by automating key steps of the document workflow

Refocus employees on higher value tasks

Remove friction from complex document workflows

Lower processing costs

Unlock hidden data to surface new insights and drive better decision-making

Read virtually any type of character and text with ***language-independent*** recognition capabilities

Deploy unique production-ready solutions in a matter of weeks

USE CASES



KYC Processes

Verify and process personal data from government-issued IDs and passports to power secure, compliant client onboarding and KYC process



Medical Insurance Claims

Read doctors' and practitioners' handwriting with up to 99% accuracy to process claims accurately and quickly



Bulk Invoice Processing

Automate handling, classification, data extraction and validation for bulk invoice packages, reducing processing time



Historical Documents and Images

Extract hard-to-recognize text, cursive script and other unstructured content from old, damaged or degraded documents and images



Oil and Gas Documents and Drawings

Extract handwritten text, convert into WITSML data to improve document search and text recognition without massive manual data extraction



Non-Latin Text and Character Recognition

Language-agnostic neural network models can be trained to recognize Arabic, Cyrillic, Chinese and other forms of text

docBrain AND BIG DATA

For both the public and private sector, data is the new oil which fuels the organization. Scientists are breaking big data into several dimensions, and docBrain is addressing all of them.



VOLUME

docBrain is looking at tens of millions of documents every year. In fact, when it comes to training docBrain for a new business use, the bigger the dataset, the better the results. Also, the larger the volumes, the bigger the ROI.

VARIETY

Smartphones are the new scanners and customers are more and more connected, making mailrooms and back-end offices face real document format, size and quality problems at input level. docBrain handles complex, atypical documents and forms and can be connected with existing systems to facilitate the integration of unstructured data.

VELOCITY

docBrain is at the heart of many robotic process automation solutions, meaning that the extracted data gets processed almost in real time.

VERACITY

By ensuring highly accurate data entry right from the beginning, docBrain achieves unparalleled, above-human accuracy levels (up to 99%).

VALUE

Automated workflows are worth nothing if the resulting data is not reliable for business intelligence and better decision-making at company level. docBrain helps develop analytical capabilities from datasets to surface hidden knowledge, leverage new insights and add value to BI applications.

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OTHER FEATURES AND ADVANTAGES

EASE OF USE

Even though docBrain is internally a very complex software product, it is extremely simple to use by a trained user. docBrain shields most of the complexities related to machine learning while presenting a simple interface. docBrain requires some configuration and parametrization, but no programming.

CLOUD-BASED

docBrain runs in a private (Google) cloud, using state-of-the-art computer technologies (GPU/TPU) for extremely fast processing. Hence, docBrain requires no customer infrastructure know-how or management. The customer only needs a client device (desktop, laptop, tablet, smartphone), a browser, a network connection and docBrain provided API's for data transfer from and into the customer's business systems.

SECURITY AND PRIVACY

docBrain has data security and data privacy by design. Moreover, the Google cloud provides an ultra-safe operating environment. Customer data is never mixed with other customer data.

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MOONOIA
Document Artificial Intelligence

Moonoia is a software company based in Brussels, Belgium, offering deep neural network technology products and solutions to organizations looking to optimize and automate document-centric processes and accelerate business transformation.

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