Using AI techniques to build intelligent software robots.

Can such work be assigned to responsible tasks?

Sergii Baibara
Intelligent automation - IPA - expands the number of tasks for robots

Robots have done it before:

- Logged into applications
- Move files and folders
- Scrape data
- Monitor
- Go through emails
- Fill out forms
- Read and enter information into databases
- Copy and paste data
From Simple Robotization to Intelligent Automation

- High Potential Value
  - High Number of opportunities
    - Integrated Automation
    - RPA: based on individual jobs
  - Low Number of opportunities
    - Automation of individual tasks
    - Low-Value Automation

- Low Potential Value
  - High Number of opportunities
    - Reimagining automation: AI, RPA, and Workforce Change
  - Low Number of opportunities
    - Intelligent Automation: RPA & AI
Intelligent automation - IPA - expands the number of tasks for robots

Robots have done it before:
- Logged into applications
- Move files and folders
- Scrape data
- Monitor
- Go through emails
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- Read and enter information into databases
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Robots are doing now:
- Extract data from documents
- Categorize e-mail
- Work in a virtual workplace (VDI)
- Understand semi-structured and unstructured data
- Perform analysis of business processes and individual tasks
- Convert speech to text
- Communicate with customers (chatbots)

RPA+ AI = IPA
The Task of Classification

Classification result: Reconciliation of counterparty bank data
Examples of the Classification task

**Classification of topics**
ML algorithms determine the subject of an email, such as "loan request", "invoice question" or "complaint"

**Result**

**Save time**
Machine learning processes incoming mail faster and more efficiently, freeing up employees' time for more strategic tasks.
Examples of the Classification task

Classification of topics
ML algorithms determine the subject of an email, such as "loan request", "invoice question" or "complaint"

Result
Save time
Machine learning processes incoming mail faster and more efficiently, freeing up employees' time for more strategic tasks.

Message Prioritization
The system automatically prioritizes each email, helping the bank respond faster to urgent requests.

Result
Risk mitigation
Automated classification helps not to miss important requests or complaints, reducing risks for the bank.
Examples of the Classification task

**Classification of topics**
ML algorithms determine the subject of an email, such as "loan request", "invoice question" or "complaint".

**Message Prioritization**
The system automatically prioritizes each email, helping the bank respond faster to urgent requests.

**Request Routing**
ML determines which department or employee should be contacted to resolve the issue more effectively.

**Result**

**Save time**
Machine learning processes incoming mail faster and more efficiently, freeing up employees' time for more strategic tasks.

**Result**

**Risk mitigation**
Automated classification helps not to miss important requests or complaints, reducing risks for the bank.

**Result**

**Improve customer service**
The bank can respond more quickly to customer requests, ensuring a high level of service.
The task is to extract information

<table>
<thead>
<tr>
<th>Invoice Number</th>
<th>Invoice Date</th>
<th>Payment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>8227250672</td>
<td>05/03/2020</td>
<td>05/05/2020</td>
</tr>
</tbody>
</table>

The robot retrieved: invoice number, invoice date, payment term, Company Name.
Examples of the Information Extraction task

**KYC procedure**

Algorithms automatically extract the customer’s data from uploaded documents, such as a passport or driver’s license, to verify the authenticity of the information.

**Result**

**Compliance Automated**

KYC helps the bank comply with regulations and security standards, reducing the risk of misidentification of customers.
Examples of the Information Extraction task

**KYC procedure**
Algorithms automatically extract the customer's data from uploaded documents, such as a passport or driver's license, to verify the authenticity of the information.

**Result**
**Compliance Automated**
KYC helps the bank comply with regulations and security standards, reducing the risk of misidentification of customers.

**Extracting data from fin Report**
ML algorithms can automatically extract data on financial metrics such as income, expenses, and profit and loss from financial statements in PDF format.

**Result**
**Accuracy and minimization of errors**
ML algorithms ensure high accuracy of data extraction, reducing the risk of human error.
### Examples of the Information Extraction task

<table>
<thead>
<tr>
<th>KYC procedure</th>
<th>Extracting data from fin Report</th>
<th>Transaction Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algorithms automatically extract the customer’s data from uploaded documents, such as a passport or driver’s license, to verify the authenticity of the information.</td>
<td>ML algorithms can automatically extract data on financial metrics such as income, expenses, and profit and loss from financial statements in PDF format.</td>
<td>Algorithms analyze textual descriptions of transactions in statements and extract key data, such as the amount, date, and description of the transaction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result</th>
<th>Result</th>
<th>Result</th>
</tr>
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<tbody>
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<td>Compliance Automated</td>
<td>Accuracy and minimization of errors</td>
<td>Automation of routine tasks</td>
</tr>
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<td>KYC helps the bank comply with regulations and security standards, reducing the risk of misidentification of customers.</td>
<td>ML algorithms ensure high accuracy of data extraction, reducing the risk of human error.</td>
<td>Extracting data from unstructured documents allows you to automate processes that previously required manual processing.</td>
</tr>
</tbody>
</table>
The task is to identify and recognize signatures
Examples of the Recognize Signatures task

Extracting Signatures from Documents
Machine learning algorithms extract signatures from documents of various formats, such as bank agreements, statements, or contracts.

Result
Efficiency & Automation
The bank automates the verification of signatures, speeding up the process compared to manual verification of documents.
Examples of the Recognize Signatures task

Extracting Signatures from Documents
Machine learning algorithms extract signatures from documents of various formats, such as bank agreements, statements, or contracts.

Detecting the Authenticity of a Signature
ML algorithms help determine whether a signature is authentic by comparing it to previously stored samples.

Result

Efficiency & Automation
The bank automates the verification of signatures, speeding up the process compared to manual verification of documents.

Security & Fraud Prevention
The use of Signature Recognition ML helps the bank prevent signature forgery and reduce the risk of fraud.
GPT Models in Banking: A Revolution in Artificial Intelligence
The main tasks solved by generative AI today

**Generation with search add-on**
A chatbot synchronized with marketing materials helps customers quickly get information on the services they are interested in.
A chatbot helps a bank employee to quickly receive answers on internal regulatory rules.

**Content Creation**
Generating the text of sending offers to customers
Generate scenarios that represent possible fraud scenarios for which you have a limited amount of data. Using such data to train another AI model expands the range of cases that the model can recognize.

**Summarizing information**
Summing up the terms of insurance, loan agreements, contracts for the client.

**Data Extraction**
Processing of financial reports, acceleration of audits.

**Generating Pins**
Analysis of texts and prediction of possible risks.

**Classification**
Determining the sentiment of comments in social media. networks in response to marketing campaigns.
Can I use my bank card abroad?

Yes! Your ABS card is for international use. Please make sure your card supports international transactions.

Can I use my ABC Bank VISA? A debit card at a foreign bank to receive local currency?

When traveling abroad, you can use your credit card to make purchases and...

Read more

Artificial intelligence generated a response by analyzing information from documents that it also attached to the response.
What are the tasks Can Artificial Intelligence Be Trusted?
Entrust any task, but control!

- Post-processing of ML results
- Validation of results
- Manual Verification
The solution is the use of AI-oriented RPA platforms
Questions?

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