



DATA ENTRY AUTOMATION



WITH
PAPERENTRY

FOR
LOGISTICS &
SUPPLY
CHAIN



CONTENTS



03

DEEP COGNITION

04

OVERVIEW OF AI

05

PAPERENTRY

06

PAPERENTRY
TECHNOLOGY

08

BENEFITS OF
PAPERENTRY

09

AUTOMATED DATA ENTRY
COST EFFICIENCY

11

AI AND CHANGING THE
INDUSTRY



Deep Cognition

Artificial Intelligence. Real Results.

ABOUT DEEP COGNITION

DEEP COGNITION

Deep Cognition was founded in Dallas, Texas in 2017 with the goal to provide developers, engineers, and researchers with an easy-to-use AI development and deployment platform.

Our mission is to help developers and businesses realize the potential of AI by providing them with next-generation AI platforms and solutions. We are addressing the problems of the talent gap, complexity, and talent discoverability in AI.

We are lowering the barrier to entry for software developers and non-programmers by empowering them to build AI without programming. Our fast-growing AI developer community is highly engaged and attracting AI talent from all around the world.

in 2019 Deep Cognition released PaperEntry AI and custom business solutions, the company has seen exponential growth in users, partners, and clients. Deep Cognition continually strives to become the platform of choice for all businesses, developers, and users for on Edge AI technology.

Deep Cognition strives to continually create solutions that digitally transform businesses by eliminating mundane tasks, saving time and resources.



OVERVIEW OF ARTIFICIAL INTELLIGENCE

Artificial Intelligence, or AI, is machine learning intelligence, rather than human intelligence which is a combination of emotion and consciousness. AI's role in our modern-day society is to perform tasks that would normally require human intelligence and resources.

Tasks such as decision-making, speech recognition, or even data entry.

The difference between humanity and machines is the speed, accuracy, and precision, in all, the effectiveness of how certain tasks are executed.

“ *We are automating data entry through the use of artificial intelligence to assist businesses in increasing productivity and efficiency.* ”

- Deep Cognition

PaperEntry AI looks at data like a human. The big difference is that the AI doesn't ever stop working, never takes a break, doesn't leave for holidays, and never rests.





PAPERENTRY BY DEEP COGNITION

An Artificial Intelligence data extraction software that allows you to automatically extract the data from your documents and have the structured data directly entered into your TMS/ERP system.

PaperEntry AI was built by Deep Cognition, for automating data entry. It's 99.9% accurate and can reduce your cost by up to 90% or more. By utilizing artificial intelligence, your business will surpass your competitors and be ahead in technology advancements.

PaperEntry AI module extracts information without complex setup or templates involved. With quick AI training, the service is operational within a week.

Our AI inputs the data directly into ERP or TMS systems, making data entry an easy automated process. Working quickly to give customers access to their data.

Data can be deployed either on-premises or through the cloud. On-Prem deployment allows for added security. Deep Cognition is trusted by the IRS, Utilize, and Arm.

Send your documents to Deep Cognition through email, API, or into a PaperEntry.AI shared file.

Upload

Data is checked for accuracy by our state of the art validator program. It can also be checked by your team or done by us.

Validation



Extraction

Our AI goes through a 4-step process to extract data, including embedded information, accurately.

Integration

Data is inputted directly into your TMS or ERP system so your team can have access as soon as they need it.



PAPERENTRY TECHNOLOGY

C) The AI extracts the information directly from the table, even when information is embedded is within the description and has not yet been extracted.

C

Page 1 - Table 1

COMPLETE AND ACCURATE COMMODITY DESCRIPTION AND COUNTRY OF MANUFACTURE	QUANTITY / UNIT OF MEASURE	UNIT PRICE	AMOUNT
SPORTING GOODS 9506.90.0500			
PA00-000334A CN CARBON BBD	6	25.79	154.74
PA00-000334A CN ARROW BDG FAST	12	12.89	154.68
PA00-000334A CN ARROW BDG SLOW	6	21.92	131.52
PA00-000334A CN BOW SMALL	6	7.35	44.14
PA00-000334A CN -4443 GB BOW SET	4	0.25	1.00
PA00-000334A CN -3322GBLOCK BOW	2	0.25	0.50
PA00-000334A CN -2223 GB BOW SCREW	2	0.25	0.50
PA00-000334A CN BOW SMALL FAST	1	141.84	141.84
PA00-000334A CN - BOW SMALL SUPER	2	128.70	257.40
PA00-000334A CN -BBOW SMALL FAST	3	135.48	406.44

D

Line Items

Product Code	Product Description	HS Code	PO Number	Unit of Measure	Quantity	Rate	Line Total
PA00-000334A	CN CARBON BBD				6	25.79	154.74
PA00-000334A	CN ARROW BDG FAST				12	12.89	154.68
PA00-000334A	CN ARROW BDG SLOW				6	21.92	131.52
PA00-000334A	CN BOW SMALL				6	7.35	44.14
PA00-000334A	CN -4443 GB BOW SET				4	0.25	1.00
PA00-000334A	CN -3322GBLOCK BOW				2	0.25	0.50
PA00-000334A	CN -2223 GB BOW SCREW				2	0.25	0.50
PA00-000334A	CN BOW SMALL FAST				1	141.84	141.84
PA00-000334A	CN - BOW SMALL SUPER				2	128.70	257.40
PA00-000334A	CN -BBOW SMALL FAST				3	135.48	406.44
PA00-000334A	CN - BOW WHL				3	87.73	263.19

Page 1

000 111 222 333 444 555 666 777 888

D) The extracted embedded table will then go through a second table processor, before being normalized, allowing the integration software to understand the information.

E) PaperEntry allows for the ability to customize the export type and the way the information is extracted. PaperEntry can add new fields and document structures depending on the client.

E

```

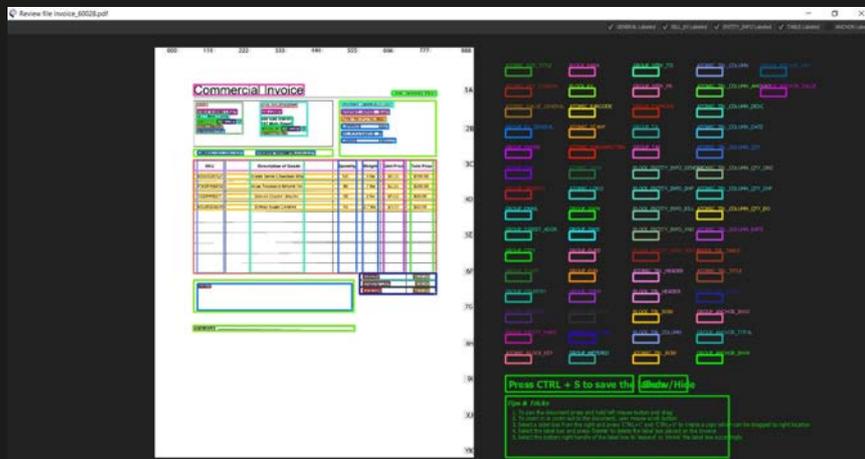
{
  "version": "1.21",
  "doc_type": "shipment_json",
  "shipments": [
    {
      "package_group": [
        {
          "pack_items": [
            {
              "customer_product_id": "PA00-000334A",
              "po_number": "",
              "product_description": "CN CARBON BBD",
              "total_item_quantity": "6",
              "unit_of_measure": "",
              "unit_of_measure_description": "",
              "unit_price": "25.79",
              "extended_price": "25.79",
              "total_cost": "154.74"
            },
            {
              "customer_product_id": "PA00-000334A",
              "po_number": "",
              "product_description": "CN ARROW BDG FAST",
              "total_item_quantity": "12",
              "unit_of_measure": "",
              "unit_of_measure_description": "",
              "unit_price": "12.89",
              "extended_price": "12.89",
              "total_cost": "154.68"
            },
            {
              "customer_product_id": "PA00-000334A",
              "po_number": "",
              "product_description": "CN ARROW BDG SLOW",
              "total_item_quantity": "6",
              "unit_of_measure": "",
              "unit_of_measure_description": "",
              "unit_price": "21.92",
              "extended_price": "21.92",
              "total_cost": "131.52"
            }
          ]
        }
      ]
    }
  ]
}

```



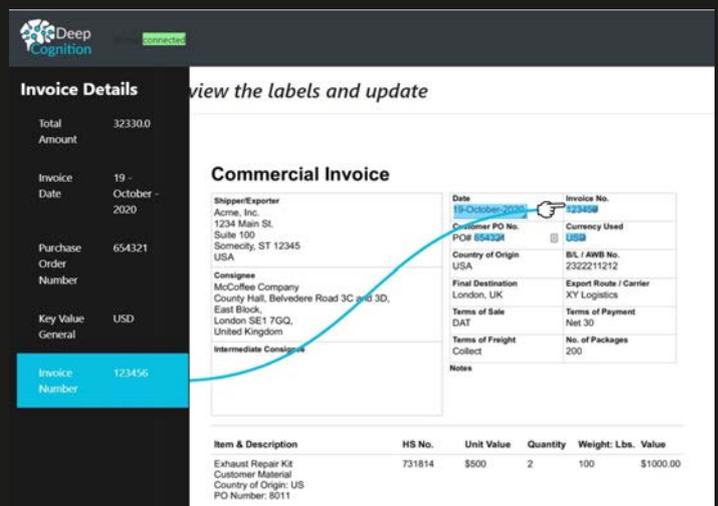
PAPERENTRY TECHNOLOGY

Labeling - Deep Cognition has developed a State of the Art labeling in-house software. For each new document type, Deep Cognition uses our labeling software to identify the key-value pairs and groupings.



Validation - Most of the time the AI will make zero mistakes, however if it does make a mistake and misread a new, formatted or unique document, you can easily correct it with our validation software.

Retraining - Once a new document is identified and a mistake is validated, the document goes back through training to ensure the next time the software sees a similar document it identifies the information correctly.





PAPERENTRY BENEFITS



COST REDUCTION

Reduce cost by up to 90% or more. Reduce the number of resources dedicated to completing data entry.



ACCURATE

Our AI is 99.9% accurate. We use Deep Cognition's AI-powered technology to correctly identify and dictate the data entry into TMS or ERP systems.



SEAMLESS INTEGRATION

Seamlessly integrate with multiple TMS or ERP systems. PaperEntry's output can be customized to be compatible with your current system.



REDUCED BACKLOG

AI doesn't take breaks or go home after an 8 hour day.



ON PREM/CLOUD DEPLOYMENT

PaperEntry can be deployed on the cloud or on prem.



TABLE EXTRACTION

Correctly identify information embedded within tables and have the data directly entered into your system.



PAPERENTRY COST-EFFICIENCY

Our [ROI calculator](#) estimates your return on investment by switching from manual data entry into automatic data entry with Deep Cognition's PaperEntry solution. Many of our customers obtain ROI within a few weeks of implementing PaperEntry's automation.

TELL US ABOUT YOUR CURRENT PROCESS

Number of commercial invoices per month*

Average salary of Data Entry FTE (Annual)* Number of Data Entry FTEs*

Invoices current process electronically (%)

Compute

ROI Calculation Results

Current Cost of Manual Data Entry	\$130,000
Cost of Automated Data Entry	\$30,000
Estimated Annual Cost Savings	\$100,000
Estimated Annual Time Saving	10400 Hours

Contact Us to Save

PaperEntry saves time and resources for any size business, saving and optimizing up to 90% of costs spent on manual data entry.



PAPERENTRY COST-EFFICIENCY: MANUAL VERSUS AUTOMATED



MANUAL DATA ENTRY TASKS

1. Download attachment (0.5 mins)
2. Open TMS Software (0.5 mins)
3. Fill customs entry including line items (10 mins/page)
4. Lookup HS codes and fill (2 mins/page)



PAPERENTRY AUTOMATION

1. Automatic email forwarding
2. Extract information including line items
3. Fill customs entry form in TMS and HS code filled with a lookup table
4. The final review is done by a human validator with minimal keystrokes (1 min/page)



SAVINGS

Human time:

$0.5 + 0.5 + 5 * 10 + 5 * 2 = 61 \text{ mins} \Rightarrow \12.20

Human Time: $5 * 1 = 5 \text{ mins} \Rightarrow \1

AI Cost: $5 * \$0.45 \text{ (max)} = \2.25

Total Cost: \$3.25

Savings Per Commercial Invoice : \$8.95



HOW AI WILL CHANGE THE INDUSTRY

Artificial Intelligence, or AI, is machine learning intelligence, rather than human intelligence which is a combination of emotion and consciousness. AI's role in our modern day society is to perform tasks which would normally require human intelligence and resources. The difference between humanity and machines is the speed, accuracy and precision, in all, the effectiveness of how certain tasks are performed.

“ *Artificial Intelligence is the 21st Century's Industrial Revolution. We help prepare companies for the big changes ahead.* ”

- Deep Cognition

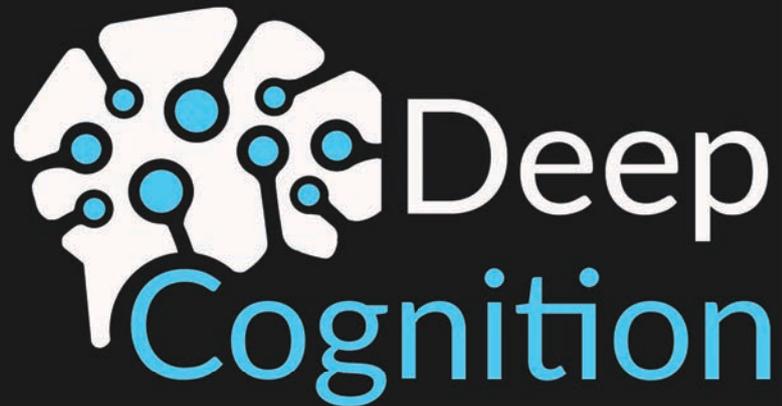
Businesses that work with AI aren't just trying a 'new trend.' They're trying to keep up with the fast-paced world that surrounds them. Whether you're building the next-generation vehicle empire or doing something as simple as data entry, artificial intelligence is the most crucial invention one should have in their front pocket.

AI is changing the industry through new solutions and is the first step of digital transformation in a digital world, businesses are making the switch to stay ahead of the curve.





DATA ENTRY AUTOMATION WITH PAPERENTRY



Artificial Intelligence. Real Results.

CONTACT US:

2010 Valley View Ln #320,
Dallas, TX 75234, USA

+1(214) 763-1260

sales@deepcognition.ai