

DATA ENTRY AUTOMATION

WITH PAPERENTRY

FOR LOGISTICS & SUPPLY CHAIN



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AI AND CHANGING THE INDUSTRY



Artifical 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 nonprogrammers by empowering them to build AI without programming. Our fastgrowing 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. Al'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.

66 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.





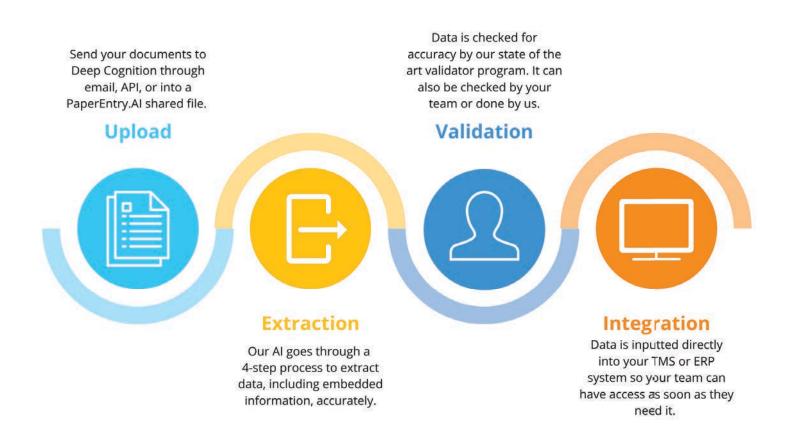
PAPERENTRY BY DEEP COGNITION

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 Al module extracts information without complex setup or templates involved. With quick Al 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.





PAPERENTRY TECHNOLOGY

Clients can choose whether they would like to use API or the PaperEntry UI to upload and process documents. We also have the ability to incorporate an email listener to automatically forward documents to be processed.

	Commen	rcial Invoice			
SELLERGHIPPER HTTELL DEC. SANA DODT JANDARY	A	INVOICE DATE AND KUM	SER CUST	ORDER NUMBER	
RECEIVED BOR. EX 87887 DEA		OTHER REFERENCES			
51 BPPER EIN 7123441542	CONTRACT CARENCE	BUYER OF OTHER THAN	COVERVER)		
CONSERVE MEMOCIA ARCHERY KARER 3-15 DEMONT 3E. GEOMATIN MEM 2142 LONDON, WK	cis iz,	TERMS AND CONDITION	TOP DELIVERY AND PA	MENT (NICOTER)	
PORT OF LADING	FINAL CESTINATION MISTRALIA	1			
OTHER TRANSPORTATION IN	70	CURRENCY OF SALE			
MATRS AND NURSERS	TOTAC NUMBER OF TRACKAGES	TOTAL GROSS WEIGHT (di Cuer	CUERC METERIS	
COMPLETE AND ACCU AND COUNT	RATE COMMODITY DESCRIPTION RY OF MANUFACTURE	UNIT OF MEASURE	UNIT PRICE	AMOUNT	
2580-C003345 - 2580-C003345 -	CH - ARBON BOG (RAT)	13 14 6	25.79 13.65 21.92 2.35	134.7 151.6 131.3 44.1	
2473-3004344 - 2603-0005345 - 2600-3033145	CB -1141.028 BOW SET CF -1112208 LOCH 509 CB -1112308 BOK 80589	1	8.25 8.28 6.25	1.1 0.1 0.1	
8483-2001144 - 8400-3023344 - 8500-0003245 - 8403-0885348 -	CB + BOY SMALL - JUT CB + BOY SMALL - JUT CB - BOY SMALL - RUS EX - BOY SMALL - TAT CB - BOY SMALL	2 3 3	241.04 126.70 135.48 87.73	141 1 237.4 476.1 263 1	
	В		2		
Status of America in accordin Diversion contrary to U.S. two it is hereby certified that this i described, that no other initial	noice shows the actual price of the goo to have been or will be insteed, and that al	ATTACA FREIGHT COST		-	
particulars are true and corre	z.	HUNDLING INSURANCE COSTS			
		ASSISTS			
Mandeep lignature and titulus of	11/11/2020 MYSE Dele Page	ADDITIONAL FEES OUTIES AND TAXES			
Authorized Person	06_1_0F_1_	TOTAL INVOICE	Witte		

A) PaperEntry begins by identifying the key-value pairs, PaperEntry highlights information such as date, invoice number, location, number of packages, B/L /AWB number, etc.

B) The AI extracts the highlighted information as well as identifies any tables within the document. PaperEntry can identify and extract product codes or HS codes embedded within tables and used on customs entry forms. The technology behind PaperEntry remains to be ahead of the competition as the AI is able to also extract information from descriptions within tables.

PAPERENTRY TECHNOLOGY

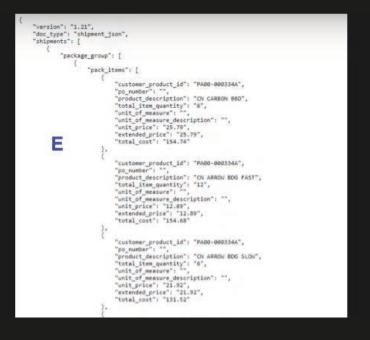
C) The AI extracts the information directly from the table, even when information is embedded is within the description and has not yet been extracted.

C 🖓				Page 1 -	Table 1				
COMPLETE AN	D ACCURATE	COMMODITY DE	CRIPTION AND	COUNTRY OF M		ANTITY / UNIT	OF MEAS		AMOUNT
SPORTING GO									
PA00-000334A					6			25.79	154.74
PA00-000334A					12			12.89	154.68
PA00-000334A					6			21.92	131.52
PA00-000334A					6			7.35	44.14
PA00-000334A					4			0.25	1.00
PA00-000334A					2			0.25	0.50
PA00-000334A					2			0.25	0.50
PA00-000334A CN BOW SMALL FAST					1			141.84	141.84
PA00-000334A CN - BOW SMALL SUPER PA00-000334A CN -BBOW SMALL FAST				2			128.70	257.40	
PA00-000334A	CN -BBOW SI	ALL FAST			3			135.48	406.44
			1.1	ne Items	-				
D			LI	ne items	>				
Product Cod	de Product	Description	HS Code	PO Number	Unit of Measure	Quantity	Rate	Line Total	
PA00-00033	4A CN CAR	BON BBD				6	25.79	154.74	
PA00-00033	4A CN ARR	OW BDG FAST				12	12.89	154.68	
PA00-00033-	4A CN ARR	OW BDG SLOW				6	21.92	131.52	
PA00-00033	4A CN BOV	V SMALL				6	7.35	44.14	
PA00-00033-	4A CN -444	3 GB BOW SET				4	0.25	1.00	
PA00-00033-	4A CN -332	2GBLOCK BOW				2	0.25	0.50	
PA00-00033	4A CN -222	3 GB BOW SCR	EW			2	0.25	0.50	
PA00-00033-	4A CN BOV	SMALL FAST				1	141.84	141.84	
PA00-00033		W SMALL SUPER				2	128,70	257.40	
PA00-00033	4A CN -BBC	W SMALL FAST				3	135.48	406.44	
PA00-00033						3	87.73	263.19	
				Page 1				₹J	
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.

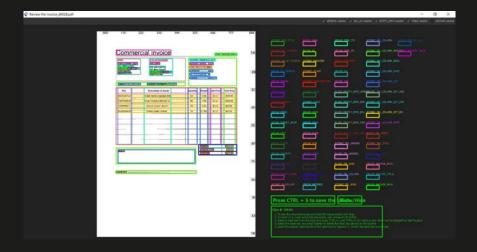
E) PaperEntry allows for the ability to customize the export type and the way the information is extracted.

PaperEntry can add new fields and document structures depending on the client.



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 Al 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.

Invoice D	etails	view the labels and	d update				
Total Amount	32330.0						
Invoice		Commercial Inv	oice				
Date	October - 2020	ShippenExporter Acme, Inc.		Date 19-October-202		Invoice No. 123458	
	1234 Main St. Suite 100		Contomer PO No. PO# 654324		Currency Used		
Purchase Order	and the second se	Somecity, ST 12345 USA	/	Country of Origin		B/L / AWB No. 2322211212	
Number		Consignee McCoffee Company County Hall, Belvedere Road 3C	and 3D.	Final Destination		Export Route / Car XY Logistics	rier
Key Value	USD	East Block, London SE1 7GQ,		Terms of Sale DAT		Terms of Payment Net 30	
General	United Kingdom Intermediate Consignee		Terms of Freight Collect		No. of Packages 200		
Invoice Number	123456			Notes			
		Item & Description	HS No.	Unit Value	Quantity	Weight: Lbs.	Value
		Exhaust Repair Kit Customer Material Country of Origin: US	731814	\$500	2	100	\$1000.00



PAPERENTRY BENEFITS



COST REDUCTION

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



A C C U R A T E

Our AI is 99.9% accurate. We use Deep Cognition's Alpowered 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

Al 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 <u>ROI calculator</u> 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*			ROI Calculation Results
5000			9	Current Cost of Manual Data Entry
Average salary of Data	Entry FTE (Annual)*	Number of Data E	intry FTEs*	\$130,000
26000	0	5	9	Cost of Automated Data Entry
nvoices current proces	s electronically (%)			\$30,000
0% \$			Estimated Annual Cost Savingss	
				\$100,000
	Con	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 mins => \$12.20 Human Time: 5 * 1 = 5 mins => \$1 Al Cost: 5 * \$0.45 (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. Al'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.



66 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.

Al 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.







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