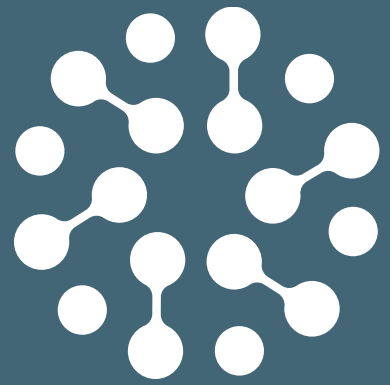

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AI-DRIVEN INVOICE PARSING

Converting Unstructured Data into Usable Insights

June 2025

INTRODUCTION – INVOICE RECONCILIATION

Why: Overall financial efficiency, profitability and cash flow through efficient cost controls

In wholesale voice & messaging, reconciliation also serves as an additional checkpoint to ensure commercial deals are on track.

What: Take supplier invoices and compare them against expected data

How: is what we are here to discuss…

LIMITATIONS OF TRADITIONAL INVOICE PROCESSING

Business impacts of having unstructured invoice data:

Delayed payments

Time consuming

Prone to errors

Might miss small deviations that might point to larger problems

The introduction of OCR (Optical Character Recognition) has facilitated workflows, but complex invoices can still be problematic and time-consuming

Challenges of Traditional Processing:

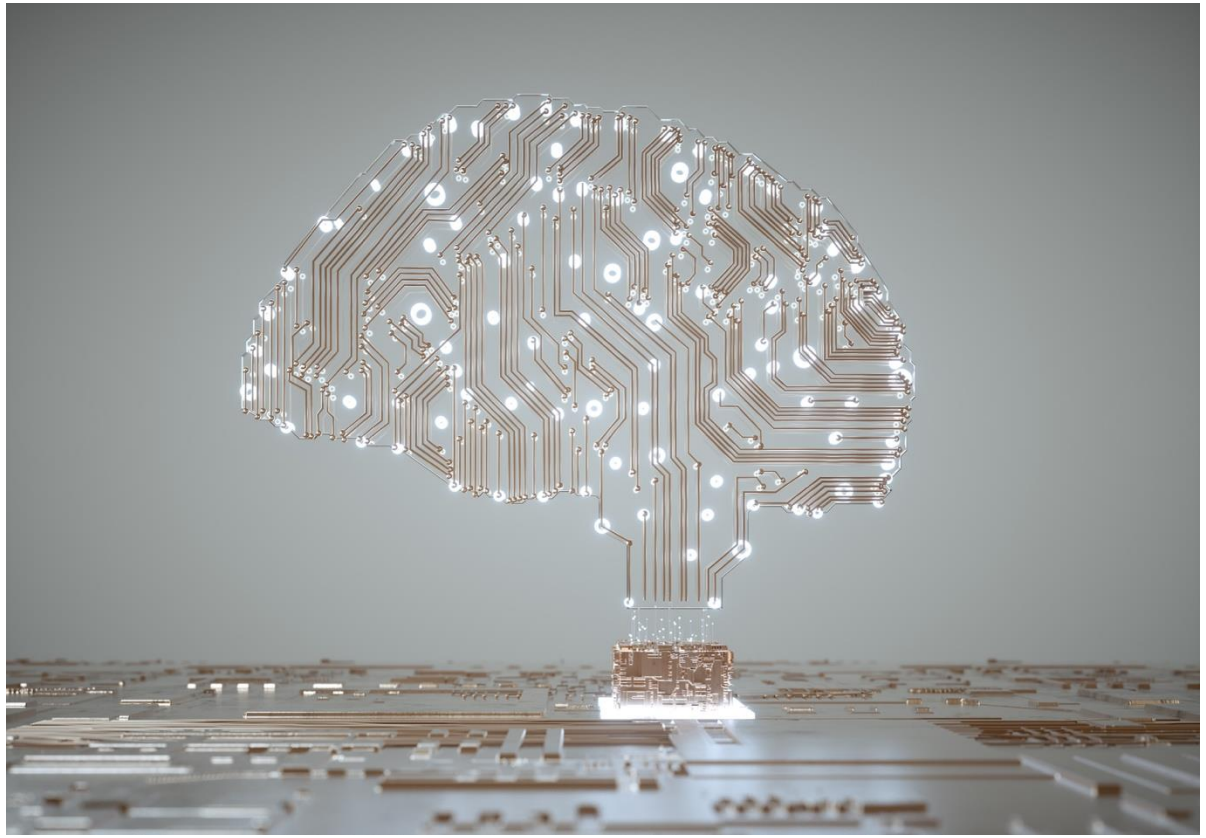
Inconsistent invoice layouts & formats

Manual workflows lead to errors & inefficiencies

OCR has weaknesses in recognizing text accurately

OCR alone isn't smart enough to handle vendor-specific layouts or missing fields. Businesses face delayed approvals and lost revenue

AI TRANSFORMS DATA EXTRACTION



Machine Learning (ML):

- Uses data-driven algorithms to learn patterns and predict outcomes
- No explicit programming needed

Deep Learning (DL):

- Advanced ML using multi-layered neural networks
- Requires large data & high computation
- Excels in complex tasks like image recognition & NLP

Natural Language Processing (NLP):

- Enables AI to understand & generate human language
- Uses ML to recognize linguistic patterns
- Integrates syntax, semantics & context for natural processing

DEEP LEARNING FOR STRUCTURED INSIGHTS

Training AI models to extract key fields (invoice number, bill period, total, invoice details, vendor address, bank details)

Because of adaptive learning, data variability (i.e. invoice formats) will not impact the extraction of key fields

In most cases, an invoice is imported once, and the data is accurately captured

Subsequent changes in invoice layouts are also captured accurately and automatically (i.e. changes that are imperceptible to the human eye)

DEEP LEARNING FOR STRUCTURED INSIGHTS

Formats that have been standardized include:

- Scanned invoices
- Various decimal formats in a single invoice
- Destinations taking up multiple “line items”
- Multiple columns (country, breakout, dial code) are captured correctly

The outcomes of AI parsing include:

- Streamlined parsing of invoice details
- Tighter financial compliance
- Time-saving
- Errors are minimized
- Streamlined reconciliation, disputes, and payments

Tech Prefix	Phone Code	Destination	Duration	Price per min	Price
	22605	BURKINA FASO - MOBILE ORANGE	424.45	0.27000USD	114.60USD
	22606	BURKINA FASO - MOBILE ORANGE	2.82	0.27000USD	0.76USD
	2262567	BURKINA FASO FIXED ORANGE	8430.22	0.27000USD	2276.16USD
	22654	BURKINA FASO MOBILE- ORANGE	2.68	0.27000USD	0.72USD
	22655	BURKINA FASO MOBILE- ORANGE	357.32	0.27000USD	96.48USD
	22657	BURKINA FASO MOBILE- ORANGE	40.35	0.27000USD	10.89USD
	22658	BURKINA FASO MOBILE- TELECEL	4897.10	0.16700USD	817.82USD
	22664	BURKINA FASO MOBILE- ORANGE	0.22	0.27000USD	0.06USD
	22665	BURKINA FASO MOBILE- ORANGE	26.62	0.27000USD	7.19USD
	22666	BURKINA FASO MOBILE- ORANGE	20.58	0.27000USD	5.56USD
	22667	BURKINA FASO MOBILE- ORANGE	46.83	0.27000USD	12.64USD
	22668	BURKINA FASO MOBILE- TELECEL	3580.00	0.16700USD	597.86USD
	22669	BURKINA FASO MOBILE- TELECEL	3174.82	0.16700USD	530.19USD
	22674	BURKINA FASO MOBILE- ORANGE	1.18	0.27000USD	0.32USD
	22675	BURKINA FASO MOBILE- ORANGE	1030.05	0.27000USD	278.11USD
	22676	BURKINA FASO MOBILE- ORANGE	29.92	0.27000USD	8.08USD
	22677	BURKINA FASO MOBILE- ORANGE	66.42	0.27000USD	17.93USD
	22678	BURKINA FASO MOBILE- TELECEL	18074.55	0.16700USD	3018.45USD
	22679	BURKINA FASO MOBILE- TELECEL	17606.68	0.16700USD	2940.32USD

Destination ▲ 1	Volume ▼ 2	Rate/Minute ▼ 3	Amount ▼ 4
ABKHAZIA	39,790.77	0.14700000	5,849.24
ABKHAZIA MOBILE-A-MOBILE	23,549.02	0.17500000	4,121.08
ABKHAZIA MOBILE-AQUAFON	5,345.78	0.17500000	935.51
ANGOLA MOBILE-UNITEL	7,866.33	0.13450000	1,058.02
Albania - Mobile - AMC	1,375.67	0.22000000	302.65
Albania - Mobile - Eagle	29.43	0.22000000	6.48
Albania - Mobile - Vodafone	657.92	0.22000000	144.74
BENIN	26.23	0.17700000	4.64
BENIN MOBILE-LIBERCOM	2,698.42	0.19000000	512.70
BENIN MOBILE-MTN	1.55	0.19000000	0.30
BURKINA FASO - MOBILE ORANGE	427.27	0.27000000	115.36
BURKINA FASO FIXED ORANGE	8,430.22	0.27000000	2,276.16
BURKINA FASO MOBILE-ORANGE	1,622.17	0.27000000	437.98
BURKINA FASO MOBILE-TELECEL	47,333.15	0.16700000	7,904.64
BURUNDI - MOBILE LUMITEL	0.20	0.27000000	0.05
BURUNDI MOBILE-AFRICELL	97.88	0.27000000	26.43

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ANOMALY DETECTION IN INVOICES

Language needs to be precise. NLP is powerful, but there is still a need to explicitly describe the desired outcome.

In our description, it was explained that calls don't include decimals. However, invoices that had a thousands' separator were misinterpreted as decimals.

Compute intense, thus making it costly

Compared to labor costs, it is a cost-saving solution that results in more accurate data.

Continuous Model Updates are needed to adapt to new invoice formats or evolving financial regulations.

Invoices that include things like disputed charges, special payment terms, or exceptions will still require human intervention.

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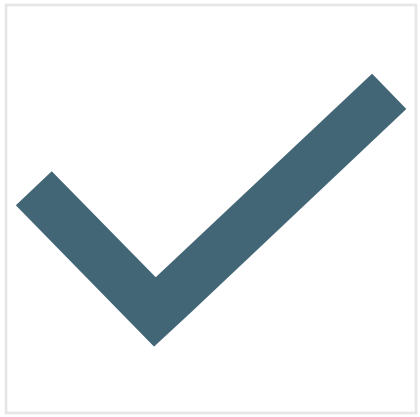
OPTIMIZING ACCURACY AND WORKFLOW AUTOMATION

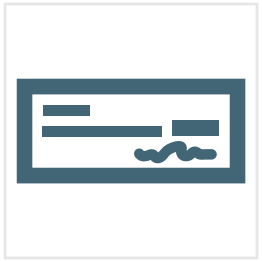


Confidence Scoring for Validation

2-step validation procedures to validate data, reduce false positives, and improve accuracy of extracted data compared to expected data.

ERP SYSTEM INTEGRATION & AUTOMATION

AI can parse essential fields quickly and accurately, resulting in quicker approvals & payments.



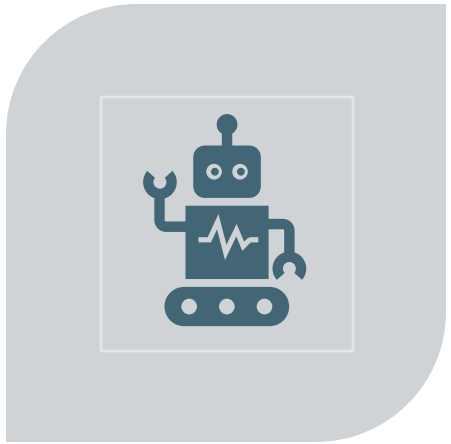
More invoice data can be captured and used for further compliance checks with little human intervention

Vendor address, bank details, Tax ID, etc. will be verified and any potential anomalies will be flagged

This results in streamlined approvals, payments, & compliance

SUMMARY & KEY TAKEAWAYS

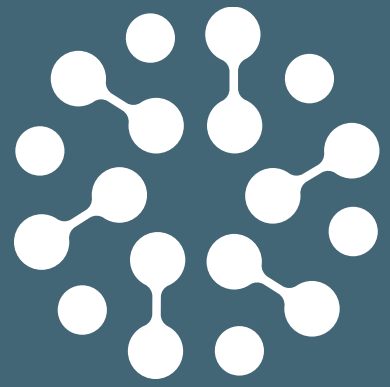
ACCURACY



AUTOMATION

EFFICIENCY

AI doesn't just replace old methods—it enhances them. Manual checks become automated validation, invoice processing shifts from a tedious function to a strategic advantage.



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Q&A