

Intelligent Financial Document Analysis for **Regulatory Compliancy**

Intelligent Document Cognition System, Automatic Document Summary and Compliance Checking

Keywords:

Artificial Intelligence (AI), Natural Language Processing (NLP), Named Entity Recognition (NER), Relation Extraction, Event Detection, Text Summarization

Problems addressed

- The challenge of handling various kinds of complex formatted documents in the financial sector
- The need to understand, analyse and extract specific data information for the purpose of regulatory compliance checking, report generation, and disclosure requirement, etc.
- The issue of existing process which is slow, error-prone and labor-intensive

ASTRI's Financial Document Analysis (FDA) system addresses these pain points, providing an intelligent information cognition system to automatically analyse and extract key information from the financial documents, and conduct summary generation and compliance checking.

Innovations

ASTRI's FDA system provides an end-to-end solution based on deep learning to enhance regulatory technology, reduce "Noncompliance costs" and "Manual checking processes", and improve the operational efficiency with artificial intelligence (AI).

The innovation outlines:

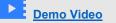
- A deep natural language processing engine to accurately • extract entities, relationships, and event roles
- Hybrid (table and text) data mining models to conduct structure process of the richly formatted documents
- A document level event extraction to detect and extract the events scattered across the documents
- A deep learning based end-to-end solution to enhance Regulatory Technology

Key impact

- Reduce Non-compliance costs
- Reduce manpower cost of manual checking process •
- Improve the operational efficiency •
- Automate and streamline the whole regulatory compliance • checking process

Innovation snapshot

PDF Ø Labelled Document 🗄 Summary 🕀 Compliance Checking 🛱 JSON	S Conclusions
For V cabeled bocarient E auninery E comprende criecking E 3304	 This transaction is a discloseable transaction.
Event Type	 The ratio is more than 5% or less than 25%.
Event Type	 The rules shown in the document a Chapter 19.
Acquisition	 Net profit related description matched.
	 The document passed all the compliance checking cases.
Date	Compliance Entities
14 December 2018	more than 5%
	less than 25%
Purchaser	discloseable transaction
Tree Holdings Limited, a company incorporated in Cayman Islands with limited liability whose issued Shares are listed and trade	Chapter 19
	Reason Checking
Vendor	Result: Matched
Perfect Bright Management Company Limited, a company incorporated in the British Virgin Islands with limited liability	 Message: Reasons for entering interactions are matched
	D Book Value Checking
	Result: Not matched
Agreement	 Message: Not Applicable.
the sale and purchase agreement dated 14 December 2018 entered into among Tree Investment, the Seller and the Guarantor	D Not Profit Checking
	Result: Matched
	 Message: Net profit related description matched.
Target	D Legible Disclaimer Checking
 Hong Kong Italiving International Co., Limited, a company incorporated in Hong Kong with limited liability which is owned as to 1 	Result: Matched
	 Message: Legible disclaimer checking success.
Consideration	Consideration Related Checking
HK\$40 million	Result: Not matched
	 Message: Not Applicable.
	C Other Party Checking



Project completed

• 2021

Applications

- Document Summary
- Report Generation
- Regulatory Compliance Checking
- Enterprise Knowledge Graph
- Information Consistency Checking

Patent(s)

• N/A

ASTRI Patent Search

Commercialisation opportunities

- IP licensing
- Technology co-development