EXL

CASE STUDY

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EXL Xtrakto.AI™
Next Gen AI/NLP powered Content Extraction Solution

Medical records are critical to the effective delivery of care to patients, and reflect the key activities and decisions of the patient journey including intake, patient history, diagnostic testing and diagnosis, treatment interventions, and prognosis. A reliable and authentic records and information management system supports clinical decisions, provides evidence of policy compliance, and serves as evidence when financial and legal disputes arise among the various stakeholders.

Despite its importance, healthcare service delivery is not always supported by medical record documentation and management.

According to the 2020 Global Healthcare Outlook Report by Deloitte, health care stakeholders need to invest in value-based care, innovative care delivery models, advanced digital technologies, data interoperability, and alternative employment models to prepare for uncertainties and build a smart health ecosystem.

Technologies such as cloud computing, artificial intelligence (AI), and natural language processing (NLP) can facilitate the optimized delivery of healthcare services to patients and health plan members.

Accordingly, healthcare stakeholders are incorporating automated systems, building new revenue streams, and demonstrating readiness to work with service providers.

Context

EXL's client is a large health benefits management firm administering healthcare for millions of patients. The client receives approximately 10,000 authorization requests daily from over 150 medical centers. Each request consists of detailed, unstructured medical documents from which around 35 fields need to be extracted. Hundreds of associates were involved in manually processing these documents, leading to a very high turnaround time.

EXL helped the client in automating medical records management through its proprietary, AI-powered EXL Xtrakto.AI™ solution that leverages NLP and deep learning capabilities to deliver significant time savings and accuracy improvements.

Orchestration

EXL deployed its multi-skilled team of machine learning (ML) engineers and Big Data experts to holistically map project requirements to the challenges. A modular approach is adopted to transform data extraction and management process using the EXL Xtrakto.AI™ solution.

This solution includes domain-specific ontologies, as well as scope for including custom ontologies and integrating business rules. Its architecture includes reusable ML engineering components that support the processing of large volumes of documents at a faster rate. EXL Xtrakto.AI™ is a portable solution and supports both on premise and cloud implementation.

The features that make EXL Xtrakto.AI™ solution unique and different from other market offerings are:

1) Capability to ingest and process various document types including structured, semi-structured, and unstructured, from heterogeneous sources across multiple file formats such as .doc, .pdf, .jpg, .tiff, .html, and others including handwritten documents

2) Abstraction of any low-level details from end users, with minimal to no intervention required from end user to run and maintain the solution

3) Generic modules and components to accelerate solution development

4) Business-specific customizations to provide the best possible outcome

5) Real-time monitoring of statistical benchmarks, agile problem detection and remediation, application management, online query, operational reporting and quality assurance

EXL Xtrakto.AI™ features an AI module that uses machine learning to extract regular expressions, process images, and augment data, while the validation module calculates the accuracy of machine-generated output through manual review and auditing.

Outcomes

EXL's robust technology infrastructure, information security, and quality operations supported the delivery of this tool and significantly increased the client's capacity to provide healthcare access to its members.

- EXL Xtrakto.AI™ reduced the turnaround time by 40-70% through the automated processing of authorization request documents.

- The 5-10% increase in document processing accuracy resulted in improved quality, compliance, agility and customer experience.

- The intelligent solution also empowers the client to reduce FTEs by up to 50% and improve output accuracy through standardized processing.

EXL Xtrakto.AI™ not only automates manual document processing tasks, but generated digital assets by transforming unstructured information into structured databases, which benefit multiple processes and end users of this medical data.

References:

2020 global health care outlook

- https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/life-sciences-health-care/2020-global-health-care-outlook.pdf

- https://www.arabhealthonline.com/en/overview/industry-insights/2020-Global-Health-Care-Outlook.html