

Biologics Launches Deep Learning-based Natural Language Processing Engine to Advance Radiology and Cardiovascular Imaging Workflow

Toronto, ON – August 28, 2020 – To address the need for greater insights into patient disease processes such as stroke, cardiovascular disease, or most recently COVID-19, Biologics Analytics Inc. (Biologics) today announces the launch of a new deep learning-based natural language processing (NLP) engine that seamlessly integrates into radiology and cardiology PACS workflows, giving providers the tools they require for advanced mining and analysis of structured and unstructured data elements contained within radiology and cardiovascular imaging and information systems to accelerate workflow optimization and clinical research for real-time identification of patient cohorts.

Traditionally, imaging metadata can be extracted from the RIS or PACS using HL7 or DICOM protocols. However, up to 80% of valuable patient information is trapped within the unstructured text of medical reports, making it impossible for care providers to accurately search, sort, summarize, or visualize this health information using traditional methods. The Biologics DxPro engine addresses this problem with NLP, unlocking this value by converging insights from traditional imaging metadata with the clinical knowledge contained within unstructured radiology requisitions, reports, and other clinical notes, enabling care providers, administrators, researchers, insurers, and artificial intelligence (AI) developers to get the real-time data they need to enable evidence-driven clinical and technical research and application development initiatives.

Jeff Vachon, President of Biologics adds: “Existing workflow and analytical tools offered as part of your RIS/PACS are interesting for operational monitoring, but not informative enough for research or transforming patient care. The convergence of imaging metadata with knowledge extracted from patient reports provides a new level of intelligence that has the potential to drive evidence-driven improvements in imaging workflow efficiency and care quality while supporting clinical research initiatives that will continue to advance disease tracking and management in the future.”

Biologics uses the DxPro engine, which extracts clinical insights according to multiple ontologies including SNOMED, RadLex, and others, and even supports custom concepts. Feature extraction includes report segment, experienter, negation, uncertainty, and development is underway for high-quality extraction of questions, additional relationship extraction (e.g. disease site, severity), and higher-level quality assurance (QA) features such as patient follow-ups, report compliance, and imaging appropriateness.

Able to process reports in real-time, the DxPro engine can be used to ingest current and historic reports for dynamic creation of clinical research databases. Biologics DxPro exports its cross-functional structured data in JSON format and can even automate extract/transform/load (ETL) into databases for application deployment and can also be used with the Biologics Business Intelligence Platform suite of analytics or ready for integration into custom applications.

About Biologics Analytics

Biologics’ AI-Ready Business Intelligence (BI) Platform has been developed in collaboration with healthcare clients and business partners to provide fully interoperable and innovative data



transformation and analysis solutions that supports the emerging data management needs of Artificial Intelligence (AI) and Machine Learning (ML) technologies. Bialogics platform for Medical Imaging Administrators and Physicians incorporates a comprehensive toolset to measure and improve access to diagnostic imaging data, providing in depth analysis of procedural appropriateness, performance management, and operational cost and efficiencies.

For more information please visit: www.bialogics.com, and info@bialogics.com

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