



Wipro Smartance

Bringing a revolution in patient safety with Artificial Intelligence

With each passing day, Emphasis on Drug & patient safety has always been important." Capturing all ADRs & reporting to the regulatory authorities though is a cumbersome process. SMARTANCE not only guarantees adherence to all the compliance needs of a Pharma Org., it also helps in proactive risk assessment of their drugs and fuel their R&D by offering advanced analytics.

SMARTANCE offers end-to-end ICSR Case Processing including quality review, medical review and regulatory submissions

The solution

Wipro Smartance, our Artificial Intelligence (AI) enabled Individual Case Study Report (ICSR) automation platform, transforms the pharmacovigilance (PV) landscape by smartly extracting medical and clinical information from free text in cases of adverse events reported, inferring information from them and capturing them in the patient safety database for downstream processing.

Wipro Smartance is built on state-of-the-art technologies like AI – Natural Language Processing (NLP), Deep Learning. Our solution is a cloud native platform which can easily integrate to existing client infrastructure. The solution is built on latest micro services architecture with services ranging from text digitization, to comprehending medical information. Each service is based on REST Architecture and is production ready that can be deployed separately for better customization of client's requirements.

Benefits first

Shifting focus from mere detecting and reporting to **predicting and preventing ADRs** leveraging our sophisticated analytics platforms

Single portal and single pane of view for all case intake channels (such as voice calls, emails, structured forms, apps, chat, etc.) and **centralized processing** and submission process.

Establish new industry standards for PV through significant **reduction in case processing time, effort and cost** while witnessing stark raise in quality, accuracy, consistency and traceability.

A **simple and easily scalable** operating model that can cope with the fluctuations in case volumes while ensuring faster and more sensitive signal detection and evaluation.

De-duplication via rule-based checks and **dynamic visual** cues for efficient data capture.

Features



Case classifier

- **Automated categorization** of cases into different case intake channel types
- **Automatic labeling of case numbers** to address duplicity and follow-up cases



Inference engine

- **Interpretation of text** pertaining to the adverse event and its relevant fields in the safety database
- **AE inference** achieved through built in domain knowledge and by the application of various ML algorithms like classifiers



Form digitizer

- **Extensive use of OCR technology** to digitize adverse drug report documents into machine interpretable form for further inferencing
- **Handling of scenarios:** borderless tables, dynamic pages, title text association, check boxes and sequence of labels



Interface

- **Web Service** enables the inferred data to be converted into a JavaScript Object Notation (JSON) which can be further absorbed
- **E2BR3** format for automated data entry into patient safety database

Caselets

In a pilot project for one of world's largest biopharmaceutical companies, SMARTANCE was successful in accurately extracting all data fields from various sources of spontaneous AE reports:

- **Time & effort Reduction: Reduce 70%** of case processing time thus ensuring timeliness in entering the case into the patient safety DB.
- **Improve quality and accuracy to 100%:** Free up locked-in resources and move them to value added processes like data entry QC, thereby increasing the percentage of cases considered for QC (currently at 16.5%) to achieve close to 100%.
- **Cost saving:** Reduce manual effort in data entry and document handling, thus lowering labor costs and reducing cost of tracking and monitoring case entry.





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