

# The Emerging Role of AI in Extracting Complex Insights from Scientific Literature

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## NOVEL APPLICATIONS OF LANGUAGE INTELLIGENCE TO DELIVER VALUE FROM SCIENTIFIC AND MEDICAL PUBLICATIONS

- Extracting emerging consensus on a new therapy or medical technique via Contrastive Text Generation
- Executing high-specificity full literature search and data extraction to powering Literary-only 505(b)2 New Drug Applications (NDA) via Natural Language Inference
- Mining publications for personalized treatment insights from advanced search criteria mined from patient characteristics via Natural Language Understanding

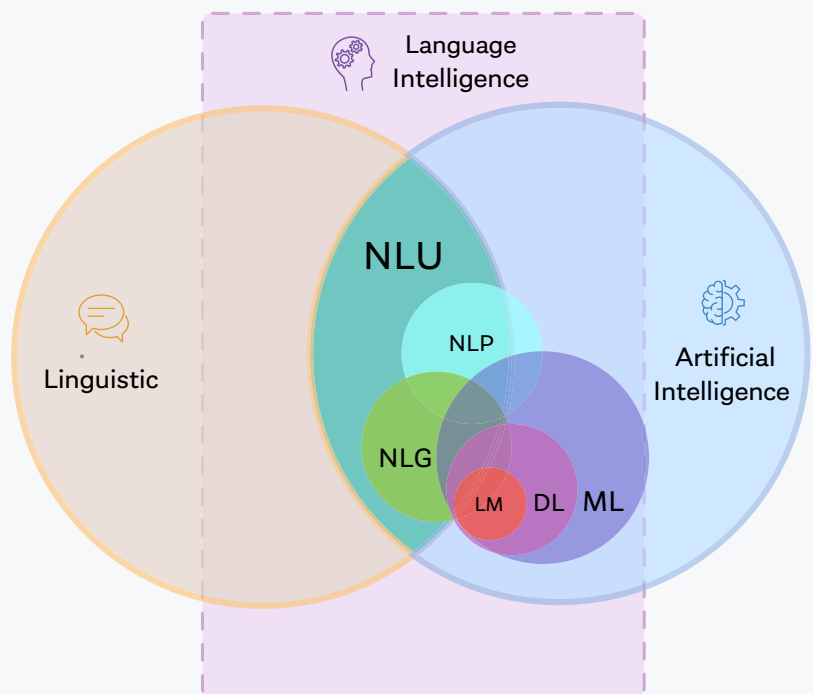
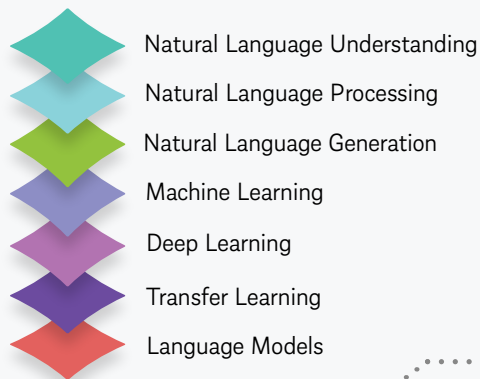
## THE VALUE OF AI IN MEDICAL AFFAIRS

From enriching KOL insights to real-time scientific content monitoring, AI can bring exponential value to Medical Affairs.

## WHAT FAMILIES OF AI APPLY TO MEDICAL PUBLICATIONS?

AI consists of fields of computer science focused on data and language.

Families of AI applicable to publications:



When adapted to medical and scientific language, each delivers unique capabilities.

# Clarity. Delivered.

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## LANGUAGE INTELLIGENCE CAN POWER A WIDE VARIETY OF NOVEL APPLICATIONS WHEN DIRECTED BY MEDICAL EXPERTISE

- Novel data with different facets are continuously published across peer-reviewed journals, clinical trials, congresses, and medical guidelines
- Each family of AI provides a key layer to solving the knowledge extraction challenge for novel use cases
  - » NLP to annotate medical text
  - » Machine Learning to automate heterogeneous ingestion
  - » NLU to drive deeper concept understanding
  - » NLI to validate hypotheses across 10,000s of publications
- Layering AI solutions can unlock new possibilities, but it is limited by the imagination of publication professionals

## Mapping AI to Medical Affairs Functions



**Generating Evidence** around the appropriate, safe, and effective use of medicines

- Tracking medical literature, clinical trials, congresses, clinical claims, and social channels to generate emerging evidence, trends, and emerging consensus.
- Designing and executing clinical trials for in-market therapies, in order to update drug labels to expand the use of key medicines and enable reimbursement for new patient populations/indications.



**Medical Strategy** to inform Target Patient Profiles (TPPs), build the medical brand of scientific excellence, and provide situational analysis on the state of the science, product profile, therapeutic landscape, patient populations, and key insights to develop strategic plans.



**Disseminating Evidence** to Key Opinion Leaders/Healthcare Providers, as well as to Market Access and Sales teams that drive the actual usage of Life Sciences Product:

- Preparing materials and presentations for MSLs on Field Medical Teams
- Responding to Healthcare Provider queries with validated information via Medical Information channels
- Writing and publishing research, meta-analyses, and findings from the field in journals and congresses
- Producing Real-World Evidence and data reports
- Aggregating and authoring HEOR to Market Access teams, Payers, and reimbursement teams at Providers (Hospitals and Specialty Pharmacy)



**Capturing Insights** that inform scientific and medical strategy from MSL engagements, medical information inquiries, HCP Advisory Boards, and research findings from therapeutic teams.



**Enabling Compliance and Regulatory Affairs** to maintain in-market compliance and adherence to local regulations, including pharmacovigilance, safety, efficacy, and write up adverse events or label updates.