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CLINICAL NATURAL LANGUAGE PROCESSOR

HEALTHCARE IT

Fully integrated natural language processing system for parsing medical records to analyze data from handwritten clinical notes and increase information available to healthcare professionals.

TECHNOLOGY TYPE

Natural Language Processing Software
Information Extraction Semantics
Medical Language Knowledge Representation Clinical Text

STAGE OF DEVELOPMENT

- Software has been developed.
- Ongoing testing to show efficacy.

LEARN MORE

Reference Numbers: U-5904, U-5960, U-5977, U-5999

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TECHNOLOGY SUMMARY

Clinical Natural Language Processing (NLP) systems require a semantic schema comprised of domain-specific concepts and associated modifiers to accurately extract information. NLP systems leverage this schema to extract meaning from texts. In the clinical domain, creating a schema requires input from clinicians and NLP experts.

The proposed technology bridges the gap between clinicians and the development of NLP systems by seamlessly analyzing data extracted from handwritten clinical notes to provide healthcare professionals with information that supports better decision making. A web-based software tool supports users in developing domain content. Content is integrated into a system that processes the handwritten clinical notes and subsequently provides actionable data to doctors and clinicians. The notes can be reviewed and corrected for accuracy. Additionally, users can search for specific annotations based on semantic content.

FEATURES AND BENEFITS

- Decreases the expertise required to utilize the NLP system using a user-friendly web-based system to textually capture map concepts.
- Allows higher variability in the language structure of NLPs.
- Increases model fidelity by allowing easy iterations.

RECENT PUBLICATIONS

Scuba, W., Tharp, M., Tseytlin, E., Liu, Y., Drews, F.A., Chapman, W.W. (2016). Knowledge Author: facilitating user-driven, domain content development to support clinical information extraction. *Journal of Biomedical Semantics*. 23(7): 42. doi: [10.1186/s13326-016-0086-9](https://doi.org/10.1186/s13326-016-0086-9).

INVENTOR PROFILE

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