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Education

PhD, Computer Science, New Jersey Institute of Technology

Key Interests

Health Informatics | Medical Ontologies and Standards | Data Integration | EHR Systems

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SELECT PUBLICATIONS

- › H. Min *et al.*, Predicting activities of daily living for cancer patients using an ontology-guided machine learning methodology. *Journal of Biomedical Semantics* 8(1), 39 (2017).
- › H. Min *et al.*, Relating complexity and error rates of ontology concepts. More complex NCI concepts have more errors. *Methods of Information in Medicine* 56(3), 200-208 (2017).
- › H. Min *et al.*, A comprehensive multi-morbidity index for predicting mortality in ICU patients. *Journal of Palliative Medicine* 20(1), 35-41 (2017).
- › C. Ochs *et al.*, Scalable quality assurance for large SNOMED CT hierarchies using subject-based subtaxonomies. *Journal of the American Medical Informatics Association* 22(3), 507-18 (2015).

Research Focus

My research interest is in the areas of ontology construction and its applications in bioinformatics. I have developed structural methodologies for auditing medical ontologies such as UMLS, NCI Thesaurus, and SNOMED CT. I have also explored ontology applications as a formal mechanism for representing and implementing behavioral models in computer systems. I am currently exploring the expansion of ontology applications, including ontology-based data integration, ontology-based machine learning methods, data extraction and analysis from various EHR systems, and other computer science technologies to clinical and health informatics.

Current Projects

- Predicting quality of life in cancer survivors using ontology-based machine learning methods: this project aims to advance ML methods with the assistance of the medical knowledge from ontologies. It facilitates the creation of individualized models for cancer patients with the aim of improving outcomes for cancer survivals
- Developing methods to improve the quality of large-scale medical terminologies: this project aims to develop methods to improve the quality of large-scale medical terminologies including UMLS, NCI Thesaurus, and SNOMED CT. It is a collaborative work with the Semantic Web & Ontologies Lab from NJIT.