Stanford MEDICINE | Biomedical Data Science

The Department of Biomedical Data Science

Presents

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"Biomedical AI: Its Roots, Evolution, and Early Days at Stanford"

Thursday, February 4, 2020
2:30-3:50 PM PST
https://stanford.zoom.us/j/98003174166?pwd=ZVBEdkNBbDdWdTBMUHlKWGpRa3QxUT09
Passcode: 654182

Abstract
Five decades have passed in the evolution of Artificial Intelligence in Medicine (AIM), a field that has evolved substantially while tracking the corresponding changes in computer science, hardware technology, communications, and biomedicine. Emerging from medical schools and computer science departments in its early years, the AIM field is now more visible and influential than ever before, paralleling the enthusiasm and accomplishments of AI more generally. This talk will briefly summarize some of AIM history, providing an update on the status of the field as we enter our second half-century. My remarks on this subject will emphasize the role that Stanford played in the emergence of the field. They will also offer the perspective of an informatics journal editor-in-chief who has seen many state-of-the-art AIM papers and thereby recognizes the tension between applying existing methods to new problems and developing new science that advances the field in a generalizable way. In addition, the inherent complexity of medicine and of clinical care necessitates that we address not only decision-making performance but also issues of usability, workflow, transparency, safety, and the pursuit of persuasive results from formal clinical trials. These requirements contribute to an ongoing investigative agenda that means fundamental AIM research will continue to be crucial and will define our accomplishments in the decades ahead.

Suggested Readings:
See next page.

Suggested Readings:

- Buchanan BG, Shortliffe EH (eds). Rule-Based Expert Systems: The MYCIN Experiments of the Stanford Heuristic Programming Project, Reading, MA: Addison Wesley, 1984.
- Clancey WJ, Shortliffe EH (eds). Readings in Medical Artificial Intelligence: The First Decade. Reading, MA: Addison Wesley, 1984.
- Shortliffe EH. Computer-Based Medical Consultations: MYCIN. New York: American Elsevier, 1976.
- Patel V L, Shortliffe E H, Stefanelli M, Szolovits P, Berthold M R, Bellazzi R et al. The coming of age of artificial intelligence in medicine. Artif Intell Med. 2009;46:5–17.
- Shortliffe EH. Artificial intelligence in medicine: Weighing the accomplishments, hype, and promise. Yearb Med Inform 2019; 28(01): 257-262.