Intelligent assistance: Harnessing “Big Data” technologies to assist in providing timely and safe patient care

In 2010 the Clinical Informatics Team at the University of California, Irvine set out introduce technologies deployed by Twitter, Facebook, LinkedIn and Yahoo into healthcare. The ability to utilize and process data by these organizations in a very real time nature was compelling. Even more compelling was the similarities in data types shared by these organizations as well as healthcare such as structured, unstructured, images and video. This presentation will focus on the work done over the past six years regarding the infrastructure required to ingest healthcare and healthcare related data into a “Big Data” ecosystem. Additional areas of focus will be on the clinical applications built on the ecosystem utilizing streaming data for monitoring patients in high acuity areas in real time by virtue of streaming data and streaming analytics. Real time quality assessment and monitoring will be discussed as healthcare is moving from retrospective quality reporting to a real time assessment of patients meeting quality measures. Data not traditionally found within the healthcare data environment will also be explored and the use cases for acquiring high value data such as social determinates of health, social media geographic information systems and public data will be covered.

Biography
Charles is the Chief Innovation Officer for Clearsense, a healthcare analytics organization specializing in bringing “Big Data” technologies to healthcare. Prior to Clearsense Charles was the Enterprise Analytics Architect for Stony Brook Medicine. In his role he is developed the analytics infrastructure to serve the clinical, operational, quality and research needs of the organization. He was a founding member of the team that developed the Health and Human Services award winning application “Now Trending” to assist in the early detection of disease outbreaks utilizing social media feeds. In 2015 Charles served as co-editor for “Mastering Healthcare Informatics” published by Sigma Theta Tau. Charles holds a MS in Technology Management from Stevens Institute of Technology and is the President of the American Nursing Informatics Association.

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