



Stony Brook University

Biomedical Informatics Grand Rounds



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Interoperable Biomedical BigData at Data Commons scale

Wednesday, December 12, 2018 3pm—4pm

BMI Conference Room HSC-L3 Room 045

Abstract:

With the funding of several NIH initiatives, Data Commons frameworks are now emerging as the interoperable data layer for Biomedical BigData. The motivation is that of allowing management and analysis of data in a manner that a) does not require the data assets to be downloaded; b) is aligned with the governance of acquisition of personal data; c) can take full advantage of the scalability of Cloud-hosted data-intensive systems; and d) maximizes the opportunities for signal extraction by machine learning. This presentation will have two parts. This first part reviews the early stage development of Data Commons, starting with Genomic Data Commons (<https://gdc.cancer.gov>) and including work at Stony Brook. The second part is an open discussion of opportunities and obstacles to the realization of Data Commons as a resource shared between Biomedical Research and Clinical Operations.

Bio:

Jonas S Almeida is Chief Technology Officer and Professor at the Dept of Biomedical Informatics (jonasalmeida.info). He has published over 200 manuscripts, with a h-index of 42, covering topics of machine learning and web computing in data intensive life sciences research applications. He has served in numerous NSF and NIH panels including chairing the Data Sciences working group at NSF's division of Biological Sciences Advisory Committee (2010-2014). His accomplishments include the development of a formal computational governance model for web-scale applications (<https://en.wikipedia.org/wiki/s3db>) and more recently the validation of a novel architecture for web computing that is the most highly accessed manuscript ever published in BMC Bioinformatics (www.biomedcentral.com/bmcbioinformatics/mostviewed/alltime). The machine learning applications to autoimmune diseases includes the use of neural computing to identify proteomic biomarkers for lupus nephritis (PMID16316334). His current activity is largely driven by the opportunities for end-user facing mobile computing in Health Care

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Questions? Please call the Biomedical Informatics Department at 631-638-2590.