Abstract: In recent years, there has been an explosion in the amounts of spatial and spatio-temporal data produced from several devices including smart phones, space telescopes, medical devices. Unfortunately, managing and analyzing such big spatial data is hampered by the lack of specialized systems, techniques, and algorithms. While big data is well supported with a variety of distributed systems and cloud infrastructure, none of these systems or infrastructure provide any special support for spatial or spatio-temporal data. This talk presents our efforts in indexing, querying, and visualizing big spatial and spatio-temporal data. We will describe our efforts within SpatialHadoop; our full-fledged MapReduce framework with native support for spatial data, including support for basic spatial operations, computational geometry, and spatial visualization.

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