



Dissertation Defense
Doctor of Philosophy in TELE

**“LOCALIZATION OF EVENT USING UNDERDEVELOPED MICROBLOGGING DATA” by
Usman Anjum**

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Place: https://pitt.co1.qualtrics.com/jfe/form/SV_0ldXMLwHCgq4mpw

Committee:

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Abstract:

Event localization is the task of finding the location of an event. Events are defined as significant one-time occurrences that show notable deviation from expected or normal behavior. Event localization has been studied in many domains including medical data, internet-of-things (IoT), sensor data and microblogging/social media domain. In this dissertation we focus on event localization in the microblogging domain. The data in the microblogging presents a unique challenge that it is *underdeveloped*. Underdeveloped data has low reliability and sporadic delivery slate. Since, microblogging data is underdeveloped it provides subjective and incomplete information, which is unsuitable for event localization. We propose enrichment methods for underdeveloped data that would make the data more suitable for event localization. Our enrichment methods include disaggregation, semantic filtering and data generation using top-down and bottom-up approaches. Once the data is enriched, we identify event signatures that are specific to an event. We find both explicit and latent event signatures within the enriched data. Using these signatures an event can be efficiently localized. We use generated data and data collected from Twitter to test our enrichment methods and implement event localization strategies.