Event Extraction has been well studied for more than two decades, primarily through the lens of the Message Understanding Conferences (MUC) and Automatic Content Extraction (ACE) programs. However, event extraction methods to date do not yet offer a satisfactory solution to providing concise, structured, document-level summaries of events in news articles. Prior work in ACE focuses on fine-grained sentence-level events, which do not offer good document-level summaries of events. Previous work under MUC relied heavily on handcrafted rules for highly specific domains, resulting in models that are not easily generalizable to new domains.

In this thesis, we propose a new framework for extracting document-level event summaries called macro-events, unifying together aspects of both information extraction and text summarization. The goal of this work is to extract concise, structured representations of documents that can clearly outline the main event of interest and all the necessary argument fillers to describe the event. Unlike work in abstractive and extractive summarization, we seek to create template-based, structured summaries, rather than plain text summaries.

We propose two novel methods to address this problem. First, we introduce a structured prediction model based on the Learning to Search framework for jointly learning argument fillers both across and within event argument slots. Second, we propose a deep neural model that treats the problem as machine comprehension, which does not require training with any on-domain macro-event labeled data. Our initial experiments on filling macro-event templates for two domains (attacks and elections) show strong performance under both models compared to existing baselines.