Fall Semester Summary

Qi Zhu
Finished Project: ReMine & AutoNet

- Incorporate Corpus Information via global translating objective
- Distantly supervised, effective and scalable
- Accepted by WSDM 19’, part of Network Construction Demo
  - KDD 18’ showcase demo, together with AutoNER/AutoPhrase

![Diagram of ReMine Framework]

Figure 2: Overview of the ReMine Framework
Ongoing Project: Open ended IR w/ Zoey

• **Developing Intelligent, Effective Document Retrieval Methods**
  - End user: Provides a high-level description of the events interested
    - e.g. “China investment activity in Africa”, “ISIS activity in Turkey”
  - Using IR methods to retrieve documents directly for this query
    - Will miss out many relevant documents/events
  - Pipeline
    - Issue initial query to retrieve seed documents D
    - Context-aware query expansion
    - Documents expansion
  - Inspired by IAI funded project, together with Zoey
Ongoing Project: Multi-document summarization

• w/ Jingjing & Fang

• Step 0: Comprehensive Background Corpus Analysis with help of
  • Too many possible concepts, we can retrieve/clustering consider target documents’ focalization
  • E.g. target documents are about \{<type of sports, instance of, baseball>, <states in US, instance of, illinois>, retrieve documents focus on <type of sports, instance of>, <states in US, instance of>
  • Cluster candidate documents regarding target documents within same cluster to find twin/siblings

• Step 1: Select several sibling groups of docs, as well as ‘twin’ group.
• Step 2: Conduct comparative analysis and extract phrases (further eliminate redundancy, etc.)
Ongoing Project: Event Schema Induction & Profiling

Deploy offline trained model

**Document classification**

**General type**
- infrastructure project

**Sub type**
- railway construction
- airport construction
- economic forum
- chairman visit

**Online News Stream**

**Schema Induction(submitting to NAACL)**

**Slot filling**

<table>
<thead>
<tr>
<th>Type</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>10/05/2015 launched</td>
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<tr>
<td>Location</td>
<td>Addis Ababa-Djibouti</td>
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<tr>
<td>Money invested</td>
<td>USD 4 billion</td>
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<tr>
<td>Sector</td>
<td>Infrastructure.Railway_Construction</td>
</tr>
<tr>
<td>Company</td>
<td>China Railway Group (CREC), China Civil Engineering Construction Corporation (CCECC)</td>
</tr>
</tbody>
</table>

**Instance Text Cube Instantiation**

- Ethiopia
- Namibia
- Zambia

- Railway construction
- Airport Construction
- Economic Forum
- Chairman visit