Beyond Generic Summarization: A Multi-faceted Hierarchical Summarization Corpus of Large Heterogeneous Data

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Summary
- New approach for creating hierarchical summarization corpora
- First, extract relevant content using crowdsourcing,
- Second, ask expert annotators to order relevant information hierarchically

Motivation
- Automatic summarization so far focused on small datasets
- Automatic systems could analyze documents from huge document collections

Results
- Highly heterogeneous corpus
- Crowdsourced information nuggets
- Tree structures covering the specific facets discussed in a document collection
- Can be used to develop and evaluate hierarchical summarization systems

Workflow

Content Selection

Hierarchy Annotation Tool
- Three expert annotators create hierarchy
- Hierarchies have multiple facet trees and no shared root node

Hierarchical Ordering

Hierarchy Overlap (HO) → Gold Standard
- Compute Gold Standard with a newly developed measure
- Consecutively add each information to empty nugget hierarchy
- Successively remove each information nugget and insert it again at best possible position

Structural Analysis / Gold Standard

Input Data

Crowdsourcing

Expert Annotation

Final Corpus

HI

Hierarchy Overlap (HO) = a · TO(H1, H2) + b · Sup(H1, H2) + c · SubO(H1, H2)

Nuggets

HI

https://github.com/AIPHES/HierarchicalSummarization

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