From Fundamentals to Recent Advances
A Tutorial on Keyphrasification

Part 4 Closing Remarks

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ECIR 2022
Challenges in Keyphrasification

- Challenges in Understanding
  - Understand the human preference in keyphrases in different context
    - Why noun phrases are dominant in keyphrases?
    - When verb/adjective phrases can be preferred?
    - Why some phrases are more representative than others?
  - Lack of systematic categorization of keyphrases
    - present v.s absent (by appearance)
    - specific v.s topic/categorical (by specificity)
    - in-domain v.s out-of-domain (by domain relatedness)
    - etc.
  - Proper guidelines for annotating keyphrases
  - Structured relationship between phrases and documents
    - Scientific paper: method, metric, dataset etc.
    - News article: 5W1H
    - etc.
Challenges in Keyphrasification

● Challenges in Modeling
  ○ Model generalization (domains, annotation types)
  ○ Reduce the reliance on data annotation
    ■ Zero-/ few-shot keyphrase generation
  ○ Models for processing very short/long documents
  ○ Improving decoding strategies for keyphrase generation
    ■ More diverse, efficient, order-invariant
  ○ Controllable keyphrase generation
  ○ Multi-modal keyphrase identification
  ○ Representation learning of phrases
Challenges in Keyphrasification

● Challenges in Evaluation
  ○ Clearer definition and metrics for measuring the phraseness and keyness properties
  ○ Evaluating keyphrases through applications

● Challenges in Datasets
  ○ Few datasets in non-English Languages
  ○ Few datasets in domains other than scientific texts
  ○ Few high-quality (not authors or readers) annotated datasets

● Needs in exploiting its value in more applications
Thank you!

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All materials available at
https://keyphrasification.github.io/
Q/A session