

Writing 100 days

Janet Yi-Ching Huang

January 23, 2016

1 Day 4: Crowdsourced Summary

A well-written summary helps readers understand the main ideas in a document with less time and effort. However, generating a high-quality summary is difficult for human and machine. Humans need to spend some time to read through the content, digest all of the information in a document, and generate a summary by synthesizing selected ideas. On the other hand, machines can identify key sentences by a statistical algorithm, but still cannot produce a coherent summary without human intervention. In this project, we attempt to combine the power of humans and machines to produce a high-quality summary from an academic paper. Machines can identify key sentences, and human can generate a summary by properly organizing those key sentences.

2 Day 3: Writing Process

Writing is a complex process which can be broken into a series of steps. The steps are pre-writing, drafting, revising, editing, and publishing. Pre-writing is the planning phase of the writing process including brainstorming, collecting ideas, and creating an outline to organize ideas. Drafting is to convert ideas into paragraphs. Revising is the phase of modifying ideas and reorganizing structure by adding, deleting, or rearranging content. The goal of this stage focuses on fixing global issues in writing. Editing is the error-correction phase of the process. At this point, writers proofread and correct surface errors such as grammar, typos, and other mechanics. Instead of fixing global issues, this phase focuses on local issues. After finishing previous steps, writers can publish their work at the end of the process.

3 Day 2: Writing Structure Extraction

The quality of paper structure affects reading comprehension. To help a writer improve she/his writing, we need to assess the structure of a paper. However, evaluating the structure of a document is challenging for a novice reader. It allows a reader to understand, analyze, and judge ideas delivered in a paper. To aid structure assessment, we provide an approach which identifies the main ideas and extracts a causal relation between two ideas.

4 Day 1: Crowdsourced Writing

Recent studies have decomposed writing process into a series of micro-tasks in crowdsourcing domain. SoyLent [1] splits writing projects into multiple stages and allows crowd workers to shorten, proofread, and edit a document. MicroWriter [cited] enable collaborative writing by

breaking the task of writing into three types of micro-tasks—generating ideas, labeling ideas to organize them, and writing paragraphs given a few related ideas.

References

- [1] M. S. Bernstein, G. Little, R. C. Miller, B. Hartmann, M. S. Ackerman, D. R. Karger, D. Crowell, and K. Panovich. Soylent: a word processor with a crowd inside. In *Proceedings of the 23rd annual ACM symposium on User interface software and technology*, UIST '10, pages 313–322, New York, NY, USA, 2010. ACM.