

Graduate School of Science and Technology Master’s Thesis Abstract

Laboratory name (Supervisor)	Natural Language Processing (WATANABE TARO (Professor))		
Student ID	2411424	Submission date	2026 / 7 / 22
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Thesis title	Enhancing Factuality through Consensus and Consistency in Summarization Using Minimum Bayes Risk Decoding		
Abstract			
Improving the quality of model-generated summaries, especially factuality, the accuracy of a summary with respect to its source content, remains a challenge. While reranking could select the optimal output from multiple generated candidates, it is limited to only using the source as guidance, resulting in unreliable summaries. To address this limitation, we propose ConSUM that reranks candidate summaries by considering two factors: $\text{emph}\{\text{consistency}\}$ to the source document and $\text{emph}\{\text{consensus}\}$ among the other candidates. Consensus is established using Minimum Bayes Risk (MBR) decoding over the set of generated summaries, while ensuring consistency by employing factuality-aware metrics that compare the summary against the source. Rigorous testing demonstrates that our system is competitive with existing methods, with human evaluations further confirming that its generated summaries are preferred over those from other systems.			