

Title: Letter content generation in a government site using AI

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Problem Statement:

Regarding the various solutions that include LSTM models (Kayabas et al.), watermarking (Lancaster), and ethical guidelines (Cheng et al.) for using AI tools, when we want to utilize an AI tool in a government or organization, several concerns arise. For example, privacy and security of data are the biggest concerns, followed by accuracy, context, and ethics.

Kayabas et al. showed in their paper how deep learning can detect AI texts, and Cheng et al. discussed ethical rules.

Still, there is no tested solution for government use (Kayabas et al.; Cheng et al.).

Government letters are formal and sometimes legal, so if AI is used without control, it can cause wrong information or public distrust. Shafie et al. found that AI helps improve writing, but it needs rules to be safe (Shafie et al).

Most research focuses on students or academic writing. There is a gap in government applications. As a worker with a government site in KSA, we are striving to use any AI tool that can serve them to reach the Saudi Vision and save the efforts and time of their employees.

So, this research will focus on the topic of using AI tools to generate official letters, as well as the users' satisfaction with the results generated. Those letters will be official to send to different government sites in KSA, and the writing language will be Arabic.

Research Objectives

1. To analyze the current challenges of using AI-generated letter content on a government site.
2. To evaluate existing detection methods and ethical frameworks for AI-generated texts.
3. To propose a structured framework for generating official letters using AI on a government site.
4. To test the proposed framework in practical scenarios.
5. To gather expert feedback.
6. To provide recommendations for effective ways of using AI writing in government letter generation.

References

- Kayabas, Ayla, Ahmet Ercan Topcu, Yehia Ibrahim Alzoubi, and Mehmet Yıldız (2025), *A Deep Learning Approach to Classify AI-Generated and Human-Written Texts*, <https://doi.org/10.3390/app15105541>
- Thomas Lancaster (2023), *Artificial intelligence, text generation tools and ChatGPT – does digital watermarking offer a solution?* , <https://edintegrity.biomedcentral.com/articles/10.1007/s40979-023-00131-6>
- Adam Cheng, Aaron Calhoun, and Gabriel Reedy (2025), *Artificial intelligence assisted academic writing: recommendations for ethical use*, <https://advancesinsimulation.biomedcentral.com/articles/10.1186/s41077-025-00350-6>
- Latisha Asmaak Shafie, Aidura Aiyub, and Nurul Alia Nafis Najmi. (2024), *EXPLORING THE POWER OF GENERATIVE AI: ENHANCING BUSINESS EMAIL WRITING SKILLS FOR L2 LEARNERS*, https://www.researchgate.net/publication/382310869_EXPLORING_THE_POWER_OF_GENERATIVE_AI_ENHANCING_BUSINESS_EMAIL_WRITING_SKILLS_FOR_L2_LEARNERS