

# The Whispering Pages

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**Abstract**—This project introduces *The Whispering Pages*, a web-based blogging platform designed for novel and story writers, with integrated AI support for real-time language enhancement. While many online writing platforms focus on content sharing, few provide built-in tools to assist with improving writing quality. This project addresses that gap by combining a user-friendly publishing system with AI-driven grammar, phrasing, and vocabulary suggestions to support and refine the writer's work. The primary aim is to enhance the creative writing process without interfering with the author's unique voice. The platform is developed using Node.js for server-side logic, MongoDB for secure data storage and user session management, and JavaScript for implementing the AI assistant trained on custom before-and-after phrase data. The system enables account creation, story publishing, author following, and persistent user data. Testing shows that AI-assisted feedback improves the overall clarity and polish of user submissions. The project contributes to the field by demonstrating how intelligent tools can be effectively integrated into creative platforms to support both expression and quality.

## I. INTRODUCTION

In an increasingly digital world, storytelling continues to thrive through online platforms where writers can share their creative work with a global audience. However, most existing platforms primarily serve as publishing outlets, offering little to no assistance in the actual writing or editing process. This poses a challenge, especially for budding authors who may have imaginative ideas but struggle with grammar, clarity, or stylistic refinement. The lack of integrated support tools means that writers must often rely on external editors or grammar checkers, disrupting the flow of the writing and publishing process.

The Whispering Pages is created to bridge this gap by offering a complete platform that not only enables users to write and publish stories but also helps them improve their content through intelligent, real-time assistance. It is designed as a dedicated space for novel

and story writers to create, enhance, and share their work while engaging with a community of fellow writers and readers. A unique aspect of this platform is the integration of an AI-powered writing assistant that analyses user-submitted stories and provides suggestions to improve grammar, phrasing, and vocabulary without altering the original tone or intent of the author. This functionality empowers writers to elevate the quality of their work independently while learning from the suggestions provided.

The platform is developed using modern web technologies—Node.js for the backend, MongoDB for secure and efficient data storage, and JavaScript for the implementation of the AI assistant. The AI model is trained on a custom JSON dataset of before-and-after text samples, allowing it to recognize and recommend meaningful improvements tailored to creative writing. Along with AI assistance, the platform supports essential features such as user sign-up, login/logout, story publishing, author following, and a personalized dashboard that retains all user activity using persistent storage in MongoDB.

By integrating writing assistance directly into the creative process, *The Whispering Pages* not only simplifies content creation but also contributes to the growth and development of writers. It promotes a more inclusive and supportive writing environment where users can focus on storytelling while receiving the guidance they need. This project reflects the growing potential of combining artificial intelligence with human creativity to build smarter, more interactive digital tools that serve real-world needs.

## II. LITERATURE SURVEY

In recent years, the intersection of artificial intelligence (AI) and creative writing has garnered significant attention. The integration of AI tools within writing platforms aims to assist authors with tasks such as grammar correction, stylistic improvement, and

language enhancement. These tools provide valuable support, particularly for non-professional writers, by enhancing the readability and overall quality of their content.

The evolution of blogging has been marked by its transformation from personal online diaries to influential platforms for self-expression and community engagement. Goldstein's work on blogging evolution highlights this transition, emphasizing the role of blogs in shaping digital communication [1].

In the context of Japan, Miura and Yamashita conducted an online survey to explore the psychological and social factors influencing blog writing. Their study identified key motivators such as personal satisfaction, relationship building, and information management skills. Positive feedback from readers was found to significantly encourage continued blogging, while negative feedback had a less pronounced effect [2].

The educational potential of blogs has been explored by Bull and Kajder, who discuss the use of weblogs as tools for enhancing writing skills and fostering student engagement. Their work underscores the importance of integrating technology into learning environments to support literacy development [3].

The advent of artificial intelligence (AI) has introduced new dimensions to writing assistance. Studies have investigated the application of AI tools in academic and creative writing contexts. For instance, research on utilizing AI-enhanced writing mediation has shown promise in developing academic writing skills among English as a Foreign Language (EFL) learners. Similarly, the use of AI in academic writing and research has been recognized as a productivity tool, aiding in tasks such as grammar checking and idea generation [4][5].

The influence of AI on creative writing has also been a subject of exploration. Investigations into the synergy between AI and creative authorship reveal that AI can serve as a collaborative partner in the writing process, offering suggestions and augmenting human creativity [6].

The development of online platforms dedicated to creative writing has facilitated the sharing of unofficial literary works. These platforms provide writers with

spaces to publish their creations, receive feedback, and engage with communities of readers and fellow authors [7].

A study focusing on Omani EFL learners examined their perspectives on utilizing AI tools to improve writing skills. The findings indicated a positive reception, with learners leveraging AI for tasks such as translation, grammar correction, and idea generation. The study also noted no significant differences in perceptions based on gender, suggesting a broad acceptance of AI tools across diverse learner demographics [8].

The reviewed literature highlights the progressive integration of blogging and artificial intelligence in enhancing writing skills and digital expression. Early studies emphasized the social and educational potential of blogs, while recent research demonstrates the transformative role of AI in both academic and creative writing contexts. AI-assisted tools are shown to foster improved grammar, vocabulary, and overall coherence, especially among EFL learners. Furthermore, platforms that combine human creativity with AI support are paving the way for more inclusive and collaborative authorship experiences. These findings affirm the value of incorporating AI technologies into writing environments, supporting learners and creators alike in achieving greater fluency, confidence, and engagement.

### III. SYSTEM ARCHITECTURE

#### 1. Frontend: HTML, CSS, JavaScript

- Renders UI, handles navigation and forms
- Displays filtered stories and authors
- Integrates AI chat-box for writing help

#### 2. Backend: Node.js

- Manages APIs, auth, sessions, and routing
- Connects to MongoDB and AI module

#### 3. Database: MongoDB

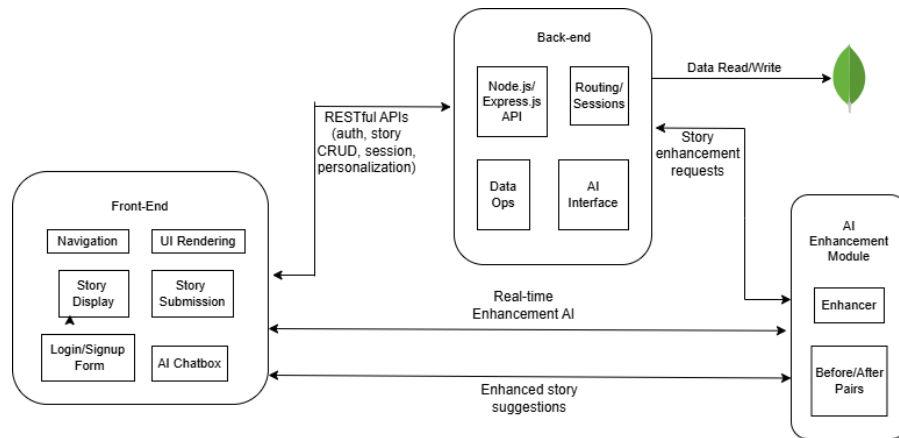
- Stores users, stories, and preferences

#### 4. AI Module: JavaScript (JSON-trained)

- Enhances grammar, vocabulary, and phrasing in real time

#### 5. Flow: Client $\rightleftharpoons$ Server $\rightleftharpoons$ MongoDB & AI module

Fig 1.1



#### IV. METHODOLOGY

The development of *The Whispering Pages* followed a structured and iterative methodology to ensure user-centric design, functional robustness, and seamless AI integration. The project was executed in the following phases:

##### 1. Requirement Analysis

- Identified the needs of aspiring writers for a platform that not only allows them to publish stories but also enhances their writing.
- Gathered functional and non-functional requirements such as user authentication, story filtering, AI-based enhancement, and persistent user preferences.

##### 2. System Design

- Created wireframes and flow diagrams for all core pages and features.
- Designed the architecture using a layered approach: frontend (UI), backend (logic and routing), database (MongoDB), and AI enhancement module.
- Ensured the architecture supports scalability, real-time interactivity, and modular development.

##### 3. Frontend Development

- Built using HTML, CSS, and JavaScript.
- Developed multiple responsive pages: Home, Stories, Authors, Create Blog, and Your Stories.
- Implemented dynamic genre-based filtering and AI chat-box interface.

##### 4. Backend Development

- Developed using Node.js to handle routing, session management, and API integration.

- Created RESTful APIs for CRUD operations (create/read/update/delete) on users, stories, and follows.

- Integrated authentication and session tracking for persistent login states.

##### 5. Database Integration

- Used MongoDB to store user accounts, stories, followed authors, and AI-enhanced versions.
- Designed schemas to ensure efficient querying and data relationships.

##### 6. AI Integration

- Developed a custom AI module using JavaScript, trained with JSON-formatted sentence pairs (original and enhanced).
- Integrated the AI tool into the Create Blog page to accept user stories, analyse grammar and phrasing, and return improved text in real time.

##### 7. Testing and Validation

- Conducted unit testing for backend endpoints and AI logic.
- Performed end-to-end functional testing for all user flows (signup, login, story creation, AI enhancement, and logout).
- Validated session persistence and follow status across sessions using MongoDB.

##### 8. Deployment and Feedback

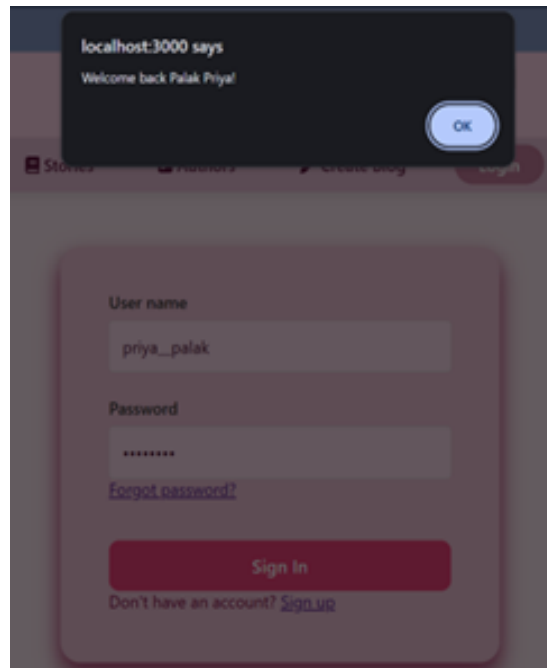
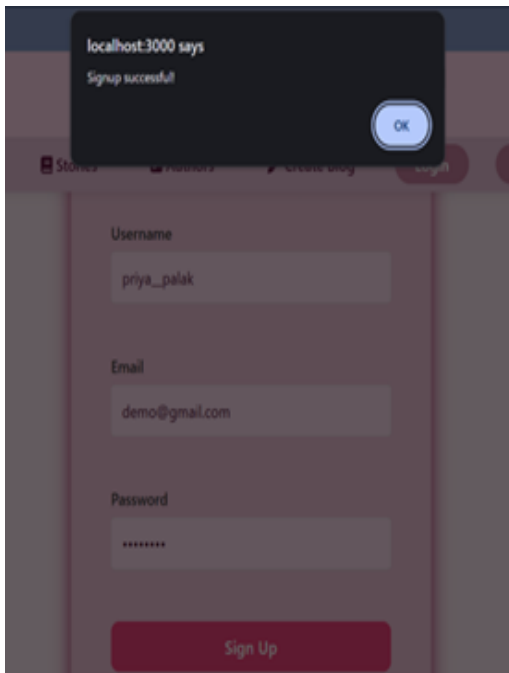
- Deployed the website on a local or cloud-based server (if applicable).
- Collected user feedback on UI/UX and AI suggestions.
- Refined features based on user experience and functional accuracy.

## V. EXPERIMENTAL ANALYSIS AND RESULTS

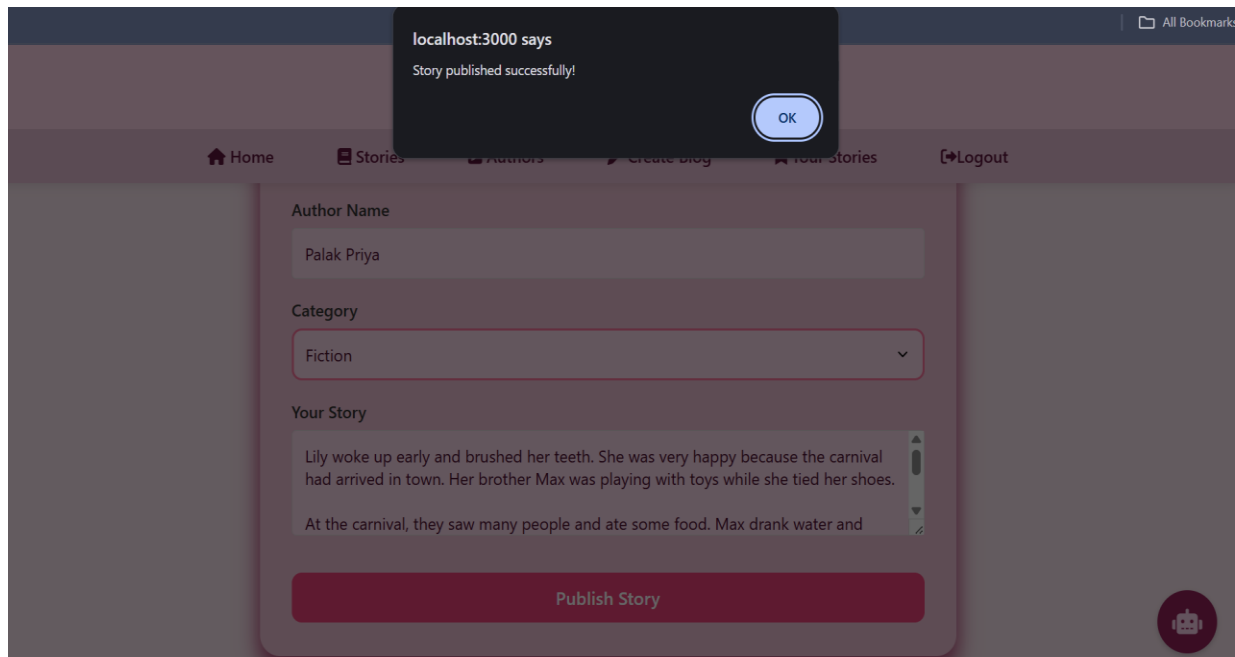
The purpose of the experimental analysis was to evaluate the functionality, usability, and effectiveness of *The Whispering Pages* platform, particularly the integration of the AI-based writing enhancement tool. The evaluation process was divided into three main areas: functional testing, AI performance assessment, and user experience feedback.

### 1. Functional testing

#### 1.1 User signup/login

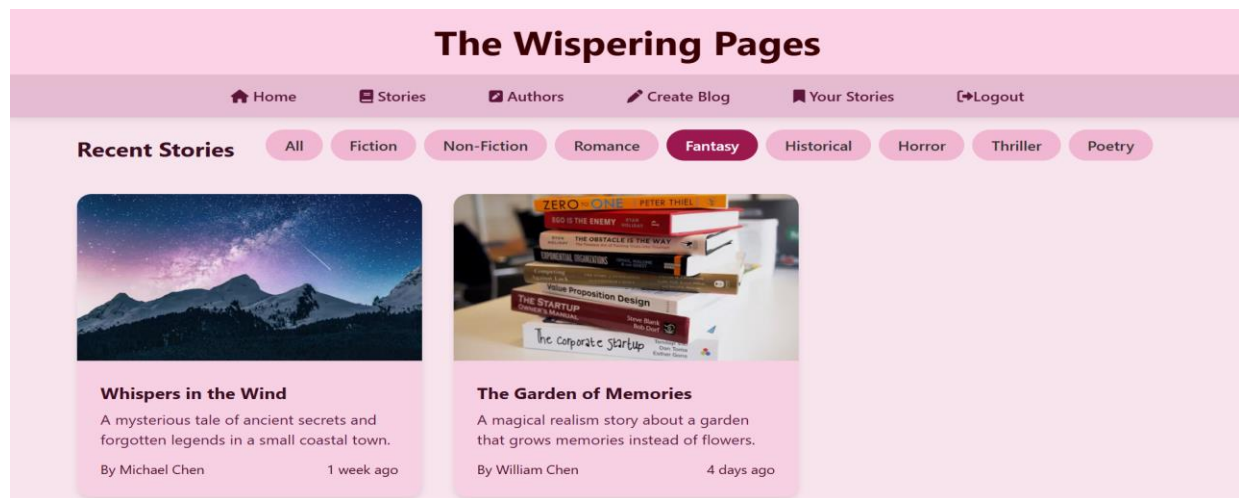


#### 1.2 Story creation

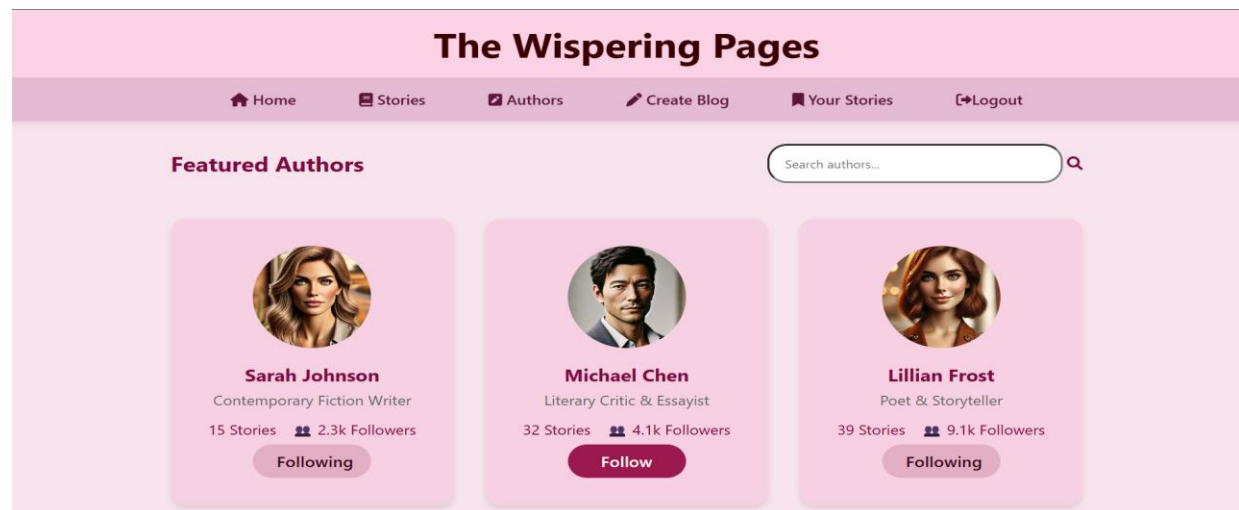




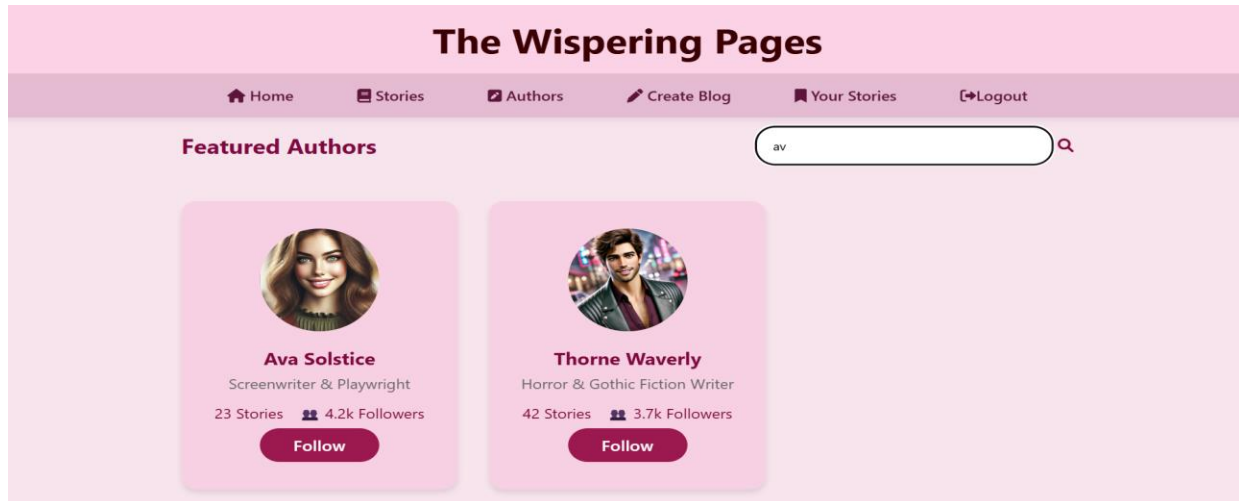
### 1.3 Story filtering



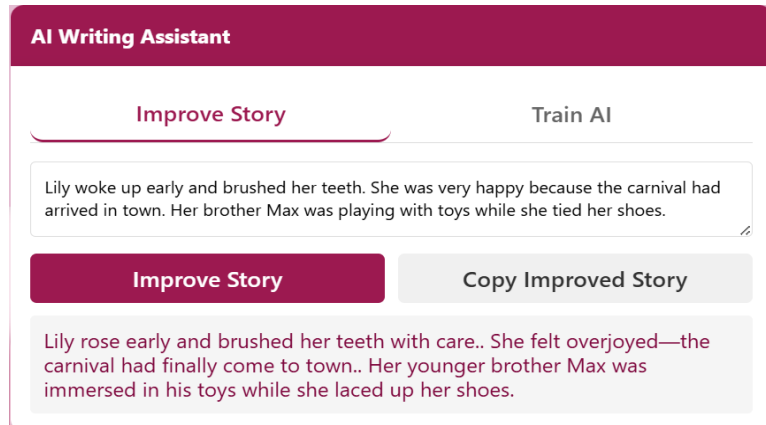
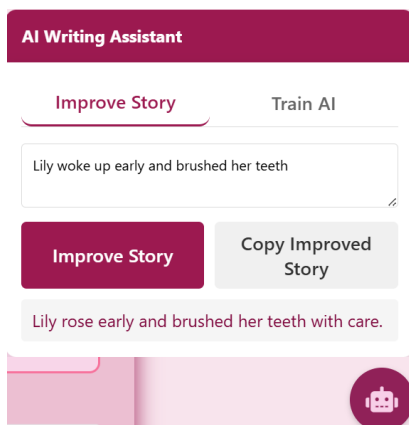
### 1.4 Follow/unfollow authors



Search box in author's page



### 1.5 AI enhancement



## VI. CONCLUSION

*The Whispering Pages* successfully delivers a comprehensive and user-friendly blogging platform tailored for novel and story writers. By integrating traditional web development with AI-based writing enhancement, the project addresses a key gap in creative writing platforms: providing real-time, intelligent feedback that not only corrects grammar but also enriches vocabulary and phrasing.

The system's architecture—built using the MongoDB and Node.js and enhanced with a custom-trained AI model—ensures modularity, scalability, and performance. Functional testing confirmed the reliability of all core features, including story publishing, author following, filtering, and session persistence. The AI evaluation further validated the tool's ability to improve clarity and fluency in user-

generated content, with a high success rate in both grammar and vocabulary enhancement.

Overall, this project not only demonstrates the technical integration of modern web and AI technologies but also contributes meaningfully to the field of creative writing support tools. Future work can focus on expanding the AI's capabilities with deep learning models and broader datasets, as well as deploying the platform for wider public access and iterative improvement.

## REFERENCES

- [1] A. M. Goldstein, *Blogging Evolution*, Springer, 2009.
- [2] A. Miura and K. Yamashita, "Psychological and Social Influences on Blog Writing: An Online Survey of Blog Authors in Japan," *Journal of*

- Computer-Mediated Communication, vol. 12, no. 4, pp. 1452–1471, 2007.
- [3] G. Bull and S. Kajder, "Writing with Weblogs," Learning and Leading with Technology, vol. 31, no. 5, pp. 32–35, 2003.
- [4] M Al-Raimi, BA Mudhsh, Y Al-Yafaei, S Al-Maashani, "Utilising Artificial Intelligence-Enhanced Writing Mediation to Develop Academic Writing Skills in EFL Learners: A Qualitative Study," 2024.
- [5] M Khalifa, M Albadawy, "Using Artificial Intelligence in Academic Writing and Research: An Essential Productivity Tool," 2024.
- [6] L Stojanovic, V Radojcic, S Savic, A Sandro, DS Cvetkovic, "The Influence of Artificial Intelligence on Creative Writing: Exploring the Synergy Between AI and Creative Authorship," 2023.
- [7] S Connolly, A Burn, "The Story Engine: Offering an Online Platform for Making ‘Unofficial’ Creative Writing Work," 2019.
- [8] M. Al-Raimi, B. A. Mudhsh, Y. Al-Yafaei, and S. Al-Maashani, "Utilizing Artificial Intelligence Tools for Improving Writing Skills: Exploring Omani EFL Learners' Perspectives," Forum for Linguistic Studies, vol. 6, no. 2, 2024