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THE EXISTENCE OF LINGUISTIC IN THE ARTIFICIAL INTELLIGENCE (AI) ERA

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Abstract

The emergence of AI change how people use technology. Most of the Artificial intelligence that integrated with technology are operated with language such as virtual assistants (alexa, siri, Google's assistant) and NLP AI like ChatGPT chabot. Therefore, the role of linguistics fills that gap so the users could use them properly so it achieves it maximal potential. To fill this gap, the current research wants to examine that linguistics take a big role in AI era, the usage of AI cannot be separated with language. This research used literature review method by collecting and examining the related theories and studies regarding linguistics and AI, specifically virtual assistants and natural language processing (NLP). This research discovers that understanding linguistics, specifically phonology, morphology, and syntax can use AI in better ways and open it maximum potential.

Keywords: Linguistics; artificial intelligence (AI); virtual assistant; natural language processing; ChatGPT.

Introduction

The emergence of artificial intelligence (AI) has changed the way people live today. People today do not have to operate their phones, cars, or even write by themselves. A virtual assistant is an example of artificial intelligence that can operate a phone solely through voice commands. For example, Alexa, Amazon, and Google Assistant can control smart home devices as long as they are connected to the internet and the virtual assistant. They can also search the browser using voice commands. AI is also used in cars, as seen with Tesla. Tesla

can do autopilot, which eliminates the need to drive the car. They only need to set the destination, and the car will drive them. (Sachdeva, 2024). Nowadays, there is a Chat bot based on Natural Language Processing (NLP), such as ChatGPT, that can answer any question because it collects all data from the internet and generates it for the user. It has the ability to do deep learning, so it has proven its capability to understand and generate like a human. (Yan, 2023).

AI classified into two types which are software and embodied. Software AI are often used by people include voice assistants (alexa, google assistants, siri, and cortana) machine learning, and Natural Language Processing Chat bot (ChatGPT, Gemini, and, BingAI). While embodied AI is a hardware AI that utilize in self-drive vehicles, AI robots, and drones. The existence of AI makes people's life easier.

The current paper seeks to determine whether there is any relationship between linguistics and AI. Linguistics appears to play a significant role in AI applications, particularly virtual assistants and Natural Language Processing (NLP). To use AI effectively and maximize its potential, users must understand all branches of linguistics. For example, when using virtual assistants, users must be able to speak clearly and have a solid understanding of English grammar. That is, understanding the phonology and syntax is required so that AI virtual assistants can understand and execute the command without error. Phonology is the study of the sounds that make up a language (McMahon, 2002). In the context of AI virtual assistants like Alexa, Siri, and Google Assistant, understanding phonology is crucial for accurate speech recognition and natural language processing, as these assistants rely on recognizing and interpreting the sounds of spoken language to fulfill user requests.

The presence of linguistics enhances the potential of AI related to natural language processing (NLP). NLP is one of the most popular types of AI. To use an NLP AI like ChatGPT effectively, the user must first understand language and be able to formulate clear prompts. Morphology and syntax play a significant role in NLP, particularly ChatGPT. To generate, use straightforward and precise language when prompting in ChatGPT (Ekin, 2023). Using specific words will generate more detailed answer, for example instead type "tell me about..." use "describe" or "elaborate" (Giray, 2023). It can be concluded that understanding the concept of morphology, the user will use the correct word to generate a more precise response. Moreover, comprehend syntax helps ChatGPT understand the command more accurately.

Therefore, the purpose of this research is to determine whether linguistics plays a role in the AI era. Looking back at previous research, the most common problem encountered by users

when using ChatGPT is prompting. They received unclear prompts, less specific questions or commands, and ambiguity prompts. (Ekin, 2023; Knoth et al., 2024). To fill this gap, this study aims to investigate whether linguistics can influence how people use AI, specifically virtual assistants (Alexa, Siri, Google Assistant) and NLP (ChatGPT, Gemini AI, Bing AI, and others).

Literature Review

Definition of Artificial Intelligence

Artificial intelligence (AI) is a branch of computer science. It involves developing computer programs to complete tasks which would otherwise require human intelligence. AI algorithms can tackle learning, perception, problem-solving, language-understanding and/or logical reasoning. AI is used in many ways within the modern world, from personal assistants to self-driving car. Artificial intelligence (AI) is evolving rapidly. While science fiction every so often portrays AI as robots closely as possible to humans (Mohammed, 2018).

Definition of Virtual Assistant

A Virtual Assistant (VA) is a software agent that can carry out tasks or provide services based on commands or questions (Soofastaei, 2021). It acts as an abstraction layer that operates over services and applications, performing actions through these tools to fulfill user intentions (Sarikaya, 2017). With the growing use of VAs in business areas such as customer relations and marketing—like Amazon Echo or Google Assistant—this type of interaction is expanding into Industry 4.0.

Definition of Natural Language Processing (NLP)

Natural language processing (NLP) allows computers to communicate with humans using the same language as humans and simplifies various language-related tasks. For example, NLP allows computers to read text, hear speech, understand meaning, assess thoughts and emotions, and determine important passages. Today, machines can analyze more language-based information than humans, without fatigue, and do so continuously and without bias (Mohammed, 2018).

Definition of ChatGPT

Chat-GPT builds upon the foundation laid by previous iterations of AI language models, such as GPT-2 and GPT-3.5. These models leverage deep learning algorithms and vast datasets

to generate human-like text responses based on input prompts. However, Chat-GPT introduces several enhancements, including improved contextual understanding, better coherence in responses, and enhanced adaptability to diverse conversational scenarios. Through iterative training and refinement, Chat-GPT has evolved into a remarkably versatile and adept conversational agent (Kapuściński, 2024).

This artificial intelligence (A.I.) based conversation platform has attracted the admiration of many people because of its ability to answer questions automatically, quickly, and in detail. A GPT chatbot is a software application designed to emulate human-like conversations based on user requests. Artificial intelligence technology in it can understand human natural language and produce written text that is similar to human creation (Zeng et al., 2024). ChatGPT is capable of producing text in various formats — be it formal, informal, or creative writing. Its ability to write is human-like in terms of content, coherence, and style of language. Since the ChatGPT prototype became available for public testing in late November, many people have been amazed by the program's ability to think and generate text (Lashari et al., 2023).

An Overview of Linguistics

Linguistics is the study of language. It is often referred to as the 'science of languages' or 'scientific study of language' (Gordon & Ladefoged, 2001). According to The New Oxford Dictionary of English (2003), linguistics is defined as “the scientific study of language and its structure, including grammar, syntax, and phonetics.” Some specific branches of linguistics are sociolinguistics, dialectology, psycholinguistics, computational linguistics, comparative linguistics, and structural linguistics. The term "linguistic" is derived from the Latin word "lingua," which means language. In Romance languages, such as Italian, there are words similar to "lingua." English borrowed the term from French, which has led to its current usage. The word "linguistic" in English is closely related to "language," just as it is in French. In Indonesian, "linguistics" refers to the field of study, while the adjective form is "linguistic."

Phonology is a branch of linguistic science that studies the sound system in languages and how these sounds function in communication (Schmeiser, 2011). In every language, phonology regulates how sounds are produced, organized, and used to distinguish meaning (Ladefoged & Johnson, 2015). For example, changes in intonation or stress can alter the meaning of a word or sentence.

Morphology is a fundamental area of linguistics that examines the internal structure of words and how they are formed from smaller units known as morphemes (Booij, 2005).

Morphemes, the smallest meaningful elements in a language, can stand alone (like the word "book") or combine with others to create more complex words (Carstairs-McCarthy, 2002). For example, the word "books" consists of two morphemes: "book" (the root) and "-s" (a plural suffix). Morphology is divided into two main types: derivational and inflectional. Derivational morphology involves creating new words by adding prefixes or suffixes to a root, often changing the word's meaning or grammatical category, such as transforming the verb "teach" into the noun "teacher" by adding "-er." In contrast, inflectional morphology modifies a word to convey grammatical information like tense or number without altering its core meaning, as seen in the transformation of "walk" to "walked" to indicate past tense (Carstairs-McCarthy, 2002).

Syntax is a vital area of linguistics that focuses on the arrangement of words to form meaningful sentences (Miller, 2001). In English, the structure and rules for sentence formation are essential, with the Subject-Verb-Object (SVO) order being a primary structure. For example, in the sentence "The teacher (subject) explains (verb) the lesson (object)," this arrangement provides clarity and meaning (Culicover & Jackendoff, 2005). Understanding syntax allows us to analyze how sentence components work together to convey information. English syntax also encompasses rules for combining phrases and clauses, such as noun phrases, verb phrases, and prepositional phrases. Complex sentences can include subordinate clauses that add information, as in "Although it was raining (subordinate clause), we went for a walk (main clause)." This ability to construct complex sentences enables speakers to express nuanced ideas and relationships, which is crucial for effective communication (Miller, 2001).

Methods

The method used to know the integration of linguistics in AI is a literature review. A literature review research method is a systematic process of identifying, evaluating, and synthesizing existing scholarly literature on a specific topic to provide a comprehensive overview of the current state of knowledge (Snyder, 2019). Literature review used to seek the relevant theories and studies to answer the questions asked in this paper. The researchers searched for books and articles related to linguistics and AI. The researcher read and displayed the explanation of linguistics that correlated to the use of AI. Then, the researcher sought how to use AI based on previous studies. It is found that to use AI, the users need to have a good ability to convey what is in their mind using language which is called prompting. After seeking and reading all the articles and books related to linguistics and AI, the researcher realized that

linguistics is needed to maximize the usage of AI, specifically virtual assistants and NLP. Finally, the researcher examines what linguistics role in AI based on the theories and previous studies found.

Results and Discussion

The discussion of the link between linguistics and AI will be divided into the main branches of linguistics, focusing on phonology, morphology, and syntax. By examining each branch, we can uncover the ways in which linguistics can be apply to use AI, so it can understand and process the command or questions. This analysis highlights the critical role of these linguistic elements in enhancing AI's ability.

Phonology in AI

a. Definition of Phonology and Its Role in Language

Phonology is a branch of linguistic science that studies the sound system in languages and how these sounds function in communication (Schmeiser, 2011). In every language, phonology regulates how sounds are produced, organized, and used to distinguish meaning (Ladefoged & Johnson, 2015). For example, changes in intonation or stress can alter the meaning of a word or sentence. In the context of AI, a good understanding of phonology is essential for virtual assistants to recognize, understand, and produce sounds in a natural and effective manner.

b. Implementation of Phonology in AI

AI uses speech processing techniques to analyse and produce human sounds. This process involves two main components: speech recognition and speech synthesis. Speech recognition is a technology that allows machines to convert human speech into text that can be understood by computers. This technology uses acoustic models, language models, and machine learning algorithms to identify patterns in sounds and link them to meaningful words or sentences. In the context of virtual assistants, speech recognition allows devices to understand spoken commands from users in real-time. Speech synthesis, on the other hand, is a technology that transforms text into speech that resembles human utterance. This method involves techniques such as prosody modeling (intonation, tone, rhythm) and phoneme articulation to generate natural-sounding speech (Tylor, 2009). Both components are crucial for smooth interactions between humans and virtual assistants, as they enable AI to not only

understand voice input but also respond with speech that is easily comprehensible and contextually appropriate (Jurafsky & Martin, 2024). With advancements in deep learning technology, speech recognition and synthesis systems have become increasingly accurate and capable of mimicking human voice characteristics such as emotions, accents, and intonation (Deng & Li, 2013).

c. Challenges in Phonology Processing by AI

Despite technological advancements enabling better speech recognition and synthesis, several challenges remain for AI in processing phonology. One major challenge is dealing with variations in pronunciation, including differences in accents and dialects that can affect sound understanding and processing. Additionally, changes in intonation and voice stress that can alter meaning also pose challenges. AI technology needs to recognize the context in which words are spoken to provide appropriate responses, which is often difficult to achieve. Another challenge is generating voices that are not only accurate but also natural and expressive, approaching the way humans speak. This requires a deep understanding of prosody and emotional aspects of speaking, which remain a focus of research in this field (Bock & Levelt, 1994).

Morphology in AI

a. Definition of Morphology and its Role in Language

Morphology is a core area of linguistics that focuses on the internal structure of words and how they are constructed from smaller units called “morphemes” (Booij, 2005). Morphemes are the smallest elements of meaning in a language, and they can function independently (like the word book) or combine with other morphemes to form more complex words (Carstairs-McCarthy, 2002). For example, in the word books, there are two morphemes: book (the root) and -s (a suffix that indicates plural).

There are two main types of morphology: “derivational and “inflectional”. Derivational morphology involves creating new words by adding prefixes, suffixes, or other morphemes to a root. This process often changes the word’s meaning or its grammatical category. For instance, adding the suffix “-er” to the verb “teach” creates the noun “teacher”. Inflectional morphology, on the other hand, modifies a word to express grammatical information, such as tense, number, or case, without changing the word's core meaning or part of speech. An

example is adding “-ed” to the verb “walk” to indicate the past tense (walked) (Carstairs-McCarthy, 2002).

b. Implementation of Morphology in AI

Understanding morphology is important not only for linguistic analysis but also for artificial intelligence. In AI, morphology is essential for natural language processing (NLP) tasks, like speech recognition, machine translation and chat bots such as ChatGPT. Those AI need users who could accurately identify morphemes to improve system performance. Understanding the basics of prompt engineering is very important for making ChatGPT work better. Prompt engineering is all about making and improving prompts to get the responses we want from the NLP AI. Some main things that affect prompt design are clarity, specificity, user intent, and relevance to the topic (Ekin, 2023). Just like in morphology, where the way words are made affects their meanings and how we use them, the way we build prompts shapes the responses that the AI gives us. By making prompts clear and specific, we can reduce confusion and guide ChatGPT in a better way (Atlas, 2023). Understanding what the user wants and thinking about the right topic also helps in making prompts more effective, similar to how small parts of words which are morphemes, combine to create more complex meanings in language. So, knowing both prompt engineering and morphology can really help make interactions with AI more clear and relevant.

c. Challenges in Morphology Processing by AI

There are several critical issues that arise when working with prompts in natural language processing. First, a common challenge is the lack of clear direction during the trial-and-error process. This can lead to a fragmented and often frustrating experience, as users may struggle to generate prompts that produce meaningful or consistent results. Additionally, formulating efficient prompts is itself a difficult task. Many users, particularly those without specialized training, find it challenging to create prompts that align with their intended outcomes. This difficulty is compounded by the challenge of assessing prompt efficacy, as it is not always clear whether a prompt will elicit the desired response or convey the intended meaning. These issues highlight a broader need for a structured approach to prompting that can streamline the process and improve outcomes (Knoth et al., 2024).

One potential solution to these problems is a stronger foundation in morphology, which is the study of word formation and structure. Morphology equips users with the tools to

understand how language is constructed at a basic level, which is essential for crafting precise and effective prompts. By understanding morphemes, the smallest units of meaning, users can better anticipate how different words and structures influence a prompt's interpretation. This knowledge can lead to more targeted and impactful prompts, reducing the trial-and-error in prompting and enabling users to evaluate efficacy with greater clarity. Morphology also aids in developing a more systematic approach to language, which can help non-experts avoid unsystematic prompting and instead adopt more structured strategies.

Syntax in AI

a. Definition of Syntax and its Role in Language

Syntax is an essential branch of linguistics that deals with how words are arranged to create meaningful sentences (Miller, 2001). In English syntax, the structure and rules governing sentence formation are crucial. One of the primary structures is the Subject-Verb-Object (SVO) order, which means that in a typical English sentence, the subject comes first, followed by the verb, and then the object. For example, in the sentence "The teacher (subject) explains (verb) the lesson (object)," this order is what gives the sentence its clear meaning (Culicover & Jackendoff, 2005). Understanding syntax helps us break down sentences to see how their components work together to convey information.

English syntax also includes various syntactic rules that dictate how phrases and clauses can be combined. For instance, we can have noun phrases, verb phrases, and prepositional phrases, which all play specific roles within a sentence. Complex sentences may contain subordinate clauses that provide additional information, like in "Although it was raining (subordinate clause), we went for a walk (main clause)." The ability to create complex sentences allows speakers to express nuanced ideas and relationships between different parts of the sentence, which is a key aspect of effective communication (Miller, 2001).

b. Implementation of Syntax in AI

Syntax, which involves the rules that organize the structure of sentences and their grammatical relationships, is really important in enhancing the capabilities of AI systems, especially in Natural Language Processing (NLP). A deeper understanding of syntax enables users to interact more effectively with AI tools like ChatGPT and improves the AI's ability to generate and interpret human language.

In NLP, syntactic is crucial for analysing sentence structures. This helps AI systems understand the roles of different words, like subjects and objects, in a sentence. This understanding is essential for various applications, including machine translation, where arranging words correctly according to the target language's rules is necessary (Nadkarni et al., 2011).

For users interacting with AI models like ChatGPT, having a solid understanding of syntax can significantly improve the effectiveness of their questions. Users who understand syntactical structures can formulate clearer questions and commands, leading to more relevant and accurate responses from the AI. For instance, knowing the difference between a direct question and a conditional statement allows users to craft prompts that guide the AI toward the desired type of response. This can result in more productive and meaningful exchanges, as the AI is better equipped to interpret nuanced queries and provide appropriate answers.

As AI technologies continue to evolve, integrating advanced syntactic analysis into their frameworks will further enhance their capabilities. For example, AI systems could use syntactic parsing to engage in more sophisticated dialogue management, enabling them to maintain context over longer interactions and handle complex queries that require multi-step reasoning. This capability would be especially beneficial in customer service applications, educational tools, and creative writing assistants, where precise understanding of user intent and context is key (Nadkarni et al., 2011).

c. Challenges in Syntax Processing by AI

One of the main challenges is AI's ability to understand complex sentence structures. Sentences with subordinate clauses, long phrases, or unusual structures can confuse AI. For example, a sentence like "Although it was raining heavily, we still went to the park" contains a more complex structure and requires good contextual understanding for accurate interpretation (Hauser et al., 2002).

Ambiguity is a common problem in syntax processing. A single sentence can have multiple meanings depending on the context, which can lead to confusion for AI. For example, the sentence "I saw a bird with binoculars" could mean that someone used binoculars to see a bird or that the bird itself had binoculars. Without clear context, AI may struggle to determine the correct interpretation, impacting the accuracy of the responses provided (Pickering & Gompel, 2006).

It can be concluded that the correlation between syntax and AI, particularly in NLP, highlights the importance of grammatical knowledge for both developers and users. By improving their understanding of syntax, users can interact more effectively with AI systems, leading to better outcomes in various applications. As AI continues to advance, the role of syntax in language processing will remain a critical factor in maximizing the potential of these technologies, ensuring they can navigate the complexities of human language with greater accuracy and fluency.

Conclusion

This paper examines the essential relationship between linguistics and artificial intelligence (AI), particularly focusing on how linguistic knowledge enhances the effectiveness of AI applications like virtual assistants and natural language processing (NLP) systems. By analyzing key branches of linguistics: phonology, morphology, syntax, and semantics the study underscores that understanding these components is crucial for users to optimize their interactions with AI tools.

This paper reveals that users often struggle with prompt formulation due to unclear language and insufficient specificity. This gap in communication can hinder the performance of AI systems. The findings suggest that a solid foundation in phonology, morphology and syntax can greatly improve users' abilities to construct precise prompts. It can increase the efficiency and accuracy of AI responses. As AI technologies continue to evolve, the integration of linguistic principles into their frameworks will remain vital for both developers and users. This paper confirms that language can make ai better understand human commands.

References

- Anwar, A. (2009). *Geneologi feminis: Dinamika pemikiran feminis dalam novel pengarang perempuan Indonesia 1933–2005*. Republika.
- Atlas, S. (2023). *ChatGPT for higher education and professional development: A guide to conversational AI* [Preprint]. University of Rhode Island. https://digitalcommons.uri.edu/cba_facpubs/548
- Baiju, G. (2018). A comparative study on the impact of new media in the movie viewing habits of youth and middle age. *Paripex – Indian Journal of Research*, 7(1).
- Bogdan, R., & Biklen, S. K. (1997). *Qualitative research for education*. Allyn & Bacon.

- Bock, K., & Levelt, W. (1994). Language production: Grammatical encoding. In M. A. G. de V. L. L. S. A. W. J. M. Levelt (Eds.), *Handbook of psycholinguistics*. Academic Press.
- Booij, G. (2005). *The grammar of words*. Oxford University Press.
- Carstairs-McCarthy, A. (2002). *An introduction to English morphology: Words and their structure*. Edinburgh University Press.
- Culicover, P. W., & Jackendoff, R. (2005). *Simpler syntax*. Oxford University Press.
- Daulay, S. H., Nabila, A., & Nasution, U. A. (2024). The effect of ICT use on the classroom management in English teaching. *Leksika: Jurnal Bahasa, Sastra dan Pengajarannya*, 18(1), 24–35.
- Daulay, S. H., Wandira, B., & Kurniati, E. Y. (2024). Review of: *Professionalizing your English language teaching* (C. Coombe, N. J. Anderson, & L. Stephenson, Eds., 2020, 435 pp).
- Daulay, S. H., Berutu, H., Dalimunte, M., Nasution, M. M., Apriani, E., Muthmainnah, M., & Shaumiwaty, S. (2024). What AI-based writing assistant actually improved: Writing quality or writing skills? In *Impacts of generative AI on creativity in higher education* (pp. 423–442). IGI Global.
- Ekin, S. (2023). *Prompt engineering for ChatGPT: A quick guide to techniques, tips, and best practices* [Preprint]. Authorea Preprints. <https://doi.org/10.36227/TECHRXIV.22683919.V2>
- Giray, L. (2023, December). Prompt engineering with ChatGPT: A guide for academic writers. *Annals of Biomedical Engineering*, 51(12), 2629–2633. <https://doi.org/10.1007/s10439-023-03272-4>
- Gordon, M., & Ladefoged, P. (2001). Phonation types: A cross-linguistic overview. *Journal of Phonetics*, 29(4), 383–406. <https://doi.org/10.1006/jpho.2001.0147>
- Hauser, M. D., Chomsky, N., & Tecumseh, F. W. (2002). The faculty of language: What is it, who has it, and how did it evolve? *Science's Compass*, November.
- Hutauruk, D. R., & Daulay, S. H. (2024, June). Teachers' perception of generative AI tools for English language instruction. In *Conference on English Language Teaching* (pp. 69–78).
- Irham, N. R., Daulay, S. H., & Purnomo, M. D. (2023). Exploring linguistic knowledge in elementary learners: Challenges and barriers. *TELL-US Journal*, 9(4).
- Jurafsky, D., & Martin, J. H. (2024). *Speech and language processing: An introduction to NLP, computational linguistics, and speech recognition* (3rd ed.). Pearson.

- Kapuściński, M. (2024). *Evolution of AI: From GPT-1 to GPT-4o – Key features, milestones, and applications*. TTMS.
- Knoth, N., Tolzin, A., Janson, A., & Leimeister, J. M. (2024). AI literacy and its implications for prompt engineering strategies. *Computers and Education: Artificial Intelligence*, 6, 100225.
- Ladefoged, P., & Johnson, K. (2015). *A course in phonetics* (7th ed.). Cengage Learning.
- Lashari, A. A., Munawar, I., Mastoi, M., Niaz, P., Buriro, S. A., & Golo, M. A. (2023). Unlocking the potentials of ChatGPT: The efficacy of ChatGPT in ESL learning outcomes. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 20(1), 1135–1143.
- McMahon, A. M. (2002). *An introduction to English phonology* (2nd ed.). Edinburgh University Press.
- Miller, J. (2001). *An introduction to English syntax*. Edinburgh University Press.
- Mohammed, Z. (2018). *Artificial intelligence: Definition, ethics and standards*. British University in Egypt.
- Nadkarni, P. M., Ohno-Machado, L., & Chapman, W. W. (2011). Natural language processing: An introduction. *Journal of the American Medical Informatics Association*, 18(5), 544–551.
- Pickering, M. J., & van Gompel, R. P. G. (2006). Syntactic parsing. In *Handbook of psycholinguistics* (pp. 455–503).
- Sachdeva, N. (2024). 20 uses of artificial intelligence in day-to-day life. *Daffodil*. <https://insights.daffodilsw.com/blog/20-uses-of-artificial-intelligence-in-day-to-day-life>
- Saragih, I. Z., Daulay, S. H., & Dalimunte, M. (2024). Teacher difficulties in teaching linguistics: A semantic mastering. *TELL-US Journal*, 10(2).
- Sarikaya, R. (2017). The technology behind personal digital assistants: An overview of the system architecture and key components. *IEEE Signal Processing Magazine*, 34, 67–81.
- Schmeiser, B. (2011). Review of *An introduction to phonetics and phonology* (J. Clark, C. Yallop, & J. Fletcher, Eds.; Blackwell Textbooks in Linguistics, 3rd ed., pp. xvi + 487). *Journal of the International Phonetic Association*, 41(3), 369–371.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339.



- Soofastaei, A. (2021). Introductory chapter: Virtual assistants. In *Virtual assistant* (pp. 1–9). IntechOpen.
- Tylor, P. (2009). Text-to-speech synthesis. In *Text-to-speech synthesis* (1st ed) Cambridge University Press.
- Yan, D. (2023). Impact of ChatGPT on learners in a L2 writing practicum: An exploratory investigation. *Education and Information Technologies*, 28, 13943–13967. <https://doi.org/10.1007/s10639-023-11742-4>
- Zeng, Y., Rajasekharan, A., Padalkar, P., Basu, K., Arias, J., & Gupta, G. (2024). Automated interactive domain-specific conversational agents that understand human dialogs. In *International Symposium on Practical Aspects of Declarative Languages* (pp. 204–222). Cham: Springer Nature Switzerland.