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| Title | A study on the challenges and opportunities of speech recognition for Bengali language | | |
| Author(s) Name | Muhammad F Mridha, Abu Quwsar Ohi, Md Abdul Hamid, Muhammad Mostafa Monowar | | |
| Contact Email(s) | firoz.mridha@aiub.edu | | |
| Published Journal Name | Artificial Intelligence Review | | |
| Type of Publication | Review | | |
| Volume |  | Issue |  |
| Publisher | Springer | | |
| Publication Date | 2022/4/1 | | |
| ISSN | 2193-1801 | | |
| DOI | 10.1007/s10462-021-10083-3 | | |
| URL | https://link.springer.com/article/10.1007/s10462-021-10083-3 | | |
| Other Related Info. |  | | |
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| Abstract |  |
| Speech recognition is a fascinating process that offers the opportunity to interact and command the machine in the field of human-computer interactions. Speech recognition is a language-dependent system constructed directly based on the linguistic and textual properties of any language. Automatic speech recognition (ASR) systems are currently being used to translate speech to text flawlessly. Although ASR systems are being strongly executed in international languages, ASR systems’ implementation in the Bengali language has not reached an acceptable state. In this research work, we sedulously disclose the current status of the Bengali ASR system’s research endeavors. In what follows, we acquaint the challenges that are mostly encountered while constructing a Bengali ASR system. We split the challenges into language-dependent and language-independent challenges and guide how the particular complications may be overhauled. Following a rigorous investigation and highlighting the challenges, we conclude that Bengali ASR systems require specific construction of ASR architectures based on the Bengali language’s grammatical and phonetic structure. | |