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Online Speech Therapy System

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Abstract: This paper provides information about online speech therapy system. The power of internet is endless. In today's world with the advancement of knowledge and technology we can achieve any challenge in life. This paper is about providing assistance to people with speech disorders. Speech disorder is a common problem world wide and some people with this disorder face many challenges and embarrassment in their life. This paper aims at providing assistance to these people with artificial intelligence technology used.
Keywords: Artificial intelligence, neural network, speech and language disorder, speech and language assistance

I. INTRODUCTION

Speech and Language Disorders: Speech is the process of producing specific sounds that convey meaning to the listener. A speech disorder refers to any condition that affects a person's ability to produce sounds that create words.
Speech is one of the main ways in which people communicate their thoughts, feelings, and ideas with others. The act of speaking requires the precise coordination of multiple body parts, including the head, neck, chest, and abdomen.
Speech disorders affect a person's ability to form the sounds that allow them to communicate with other people. They are not the same as language disorders. Speech disorders prevent people from forming correct speech sounds, while language disorders affect a person's ability to learn words or understand what others say to them.

A. Types of Speech Disorders

1) *Sluttering:* Stuttering refers to a speech disorder that interrupts the flow of speech. People who stutter can experience the following types of disruption:
2) *Apraxia:* The brain controls every single action that people make, including speaking. Most of the brain's involvement in speech is unconscious and automatic. When someone decides to speak, the brain sends signals to the different structures of the body that work together to produce speech. The brain instructs these structures how and when to move to form the appropriate sounds. For example, these speech signals open or close the vocal cords, move the tongue and shape the lips, and control the movement of air through the throat and mouth
3) *Dysarthria:* Dysarthria occurs when damage to the brain causes muscle weakness in a person's face, lips, tongue, throat, or chest. Muscle weakness in these parts of the body can make speaking very difficult

The symptoms of speech disorders vary widely depending on the cause and severity of the disorder. People can develop multiple speech disorders with different symptoms. People with one or more speech disorders may experience the following symptoms:

- Repeating or prolonging sounds
- Distorting sounds
- Adding sounds or syllables to words
- Rearranging syllables
- Having difficulty pronouncing words correctly
- Struggling to say the correct word or sound
- Speaking with a hoarse or raspy voice
- Speaking very softly

B. Causes of Speech Disorders

a) brain damage due to stroke or head injury
b) muscle weakness
c) damaged vocal cords
d) a degenerative disease, such as Parkinson's diseases
e) dementia

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f) Cancer that affects the mouth or throat
g) autism
h) Down syndrome
i) hearing loss

II. WORKING OF ONLINE SPEECH THERAPY

An easy way to comply with the conference paper formatting requirements is to use this document

- Ytytytytytytytu
- Jgjggjgjgjgjg

A. Page Layout

Your paper must use a page size corresponding to A4 which is 210mm (8.27") wide and 297mm (11.69") long. The margins must be set as follows:

- Top = 19mm (0.75")
- Bottom = 43mm (1.69")
- Left = Right = 14.32mm (0.56")

Your paper must be in two column format with a space of 4.22mm (0.17") between columns.

III. PAGE STYLE

All paragraphs must be indented. All paragraphs must be justified, i.e. both left-justified and right-justified.

A. Text Font of Entire Document

The entire document should be in Times New Roman or Times font. Type 3 fonts must not be used. Other font types may be used if needed for special purposes.
Recommended font sizes are shown in Table 1.

B. Title and Author Details

Title must be in 24 pt Regular font. Author name must be in 11 pt Regular font. Author affiliation must be in 10 pt Italic. Email address must be in 9 pt Courier Regular font.

TABLE I
FONT SIZES FOR PAPERS

Font Size	Appearance (in Time New Roman or Times)		
	Regular	Bold	Italic
8	table caption (in Small Caps), figure caption, reference item		reference item (partial)
9	author email address (in Courier), cell in a table	abstract body	abstract heading (also in Bold)
10	level-1 heading (in Small Caps), paragraph		level-2 heading, level-3 heading, author affiliation
11	author name		
24	title		

All title and author details must be in single-column format and must be centered.
Every word in a title must be capitalized except for short minor words such as "a", "an", "and", "as", "at", "by", "for", "from", "if", "in", "into", "on", "or", "of", "the", "to", "with".
Author details must not show any professional title (e.g. Managing Director), any academic title (e.g. Dr.) or any membership of any professional organization (e.g. Senior Member IEEE).
To avoid confusion, the family name must be written as the last part of each author name (e.g. John A.K. Smith).
Each affiliation must include, at the very least, the name of the company and the name of the country where the author is based (e.g. Causal Productions Pty Ltd, Australia).
Email address is compulsory for the corresponding author.

C. Section Headings

No more than 3 levels of headings should be used. All headings must be in 10pt font. Every word in a heading must be capitalized except for short minor words as listed in Section III-B.

1) *Level-1 Heading*: A level-1 heading must be in Small Caps, centered and numbered using uppercase Roman numerals. For example, see heading "III. Page Style" of this document. The two level-1 headings which must not be numbered are "Acknowledgment" and "References".
2) *Level-2 Heading:* A level-2 heading must be in Italic, left-justified and numbered using an uppercase alphabetic letter followed by a period. For example, see heading "C. Section Headings" above
3) *Level-3 Heading:* A level-3 heading must be indented, in Italic and numbered with an Arabic numeral followed by a right parenthesis. The level-3 heading must end with a colon. The body of the level-3 section immediately follows the level-3 heading in the same paragraph. For example, this paragraph begins with a level-3 heading.

D. Figures and Tables

Figures and tables must be centered in the column. Large figures and tables may span across both columns. Any table or figure that takes up more than 1 column width must be positioned either at the top or at the bottom of the page.
Graphics may be full color. All colors will be retained on the CDROM. Graphics must not use stipple fill patterns because they may not be reproduced properly. Please use only *SOLID FILL* colors which contrast well both on screen and on a black-and-white hardcopy, as shown in Fig. 1.

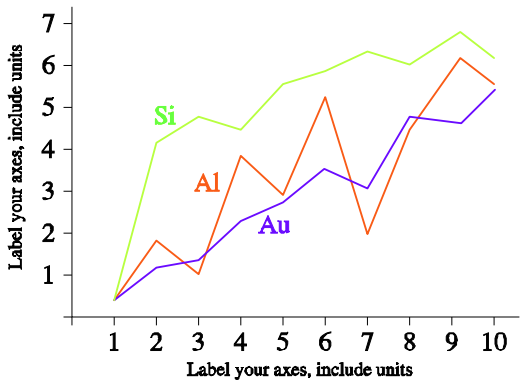


Fig. 1 A sample line graph using colors which contrast well both on screen and on a black-and-white hardcopy

Fig. 2 shows an example of a low-resolution image which would not be acceptable, whereas Fig. 3 shows an example of an image with adequate resolution. Check that the resolution is adequate to reveal the important detail in the figure.

Please check all figures in your paper both on screen and on a black-and-white hardcopy. When you check your paper on a black-and-white hardcopy, please ensure that:

- The colors used in each figure contrast well,
- The image used in each figure is clear,
- All text labels in each figure are legible.

E. Figure Captions

Figures must be numbered using Arabic numerals. Figure captions must be in 8 pt Regular font. Captions of a single line (e.g. Fig. 2) must be centered whereas multi-line captions must be justified (e.g. Fig. 1). Captions with figure numbers must be placed after their associated figures, as shown in Fig. 1.



Fig. 2 Example of an unacceptable low-resolution image



Fig. 3 Example of an image with acceptable resolution

F. Table Captions

Tables must be numbered using uppercase Roman numerals. Table captions must be centred and in 8 pt Regular font with Small Caps. Every word in a table caption must be capitalized except for short minor words as listed in Section III-B. Captions with table numbers must be placed before their associated tables, as shown in Table 1.

G. Page Numbers, Headers and Footers

Page numbers, headers and footers must not be used.

H. Links and Bookmarks

All hypertext links and section bookmarks will be removed from papers during the processing of papers for publication. If you need to refer to an Internet email address or URL in your paper, you must type out the address or URL fully in Regular font.

I. References

The heading of the References section must not be numbered. All reference items must be in 8 pt font. Please use Regular and Italic styles to distinguish different fields as shown in the References section. Number the reference items consecutively in square brackets (e.g. [1]).

When referring to a reference item, please simply use the reference number, as in [2]. Do not use "Ref. [3]" or "Reference [3]" except at the beginning of a sentence, e.g. "Reference [3] shows …". Multiple references are each numbered with separate brackets (e.g. [2], [3], [4]–[6]).

Examples of reference items of different categories shown in the References section include:

- example of a book in [1]
- example of a book in a series in [2]
- example of a journal article in [3]
- example of a conference paper in [4]
- example of a patent in [5]
- example of a website in [6]
- example of a web page in [7]
- example of a databook as a manual in [8]
- example of a datasheet in [9]
- example of a master's thesis in [10]
- example of a technical report in [11]
- example of a standard in [12]

IV. CONCLUSIONS

The version of this template is V2. Most of the formatting instructions in this document have been compiled by Causal Productions from the IEEE LaTeX style files. Causal Productions offers both A4 templates and US Letter templates for LaTeX and Microsoft Word. The LaTeX templates depend on the official IEEEtran.cls and IEEEtran.bst files, whereas the Microsoft Word templates are self-contained. Causal Productions has used its best efforts to ensure that the templates have the same appearance.

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V. ACKNOWLEDGMENT

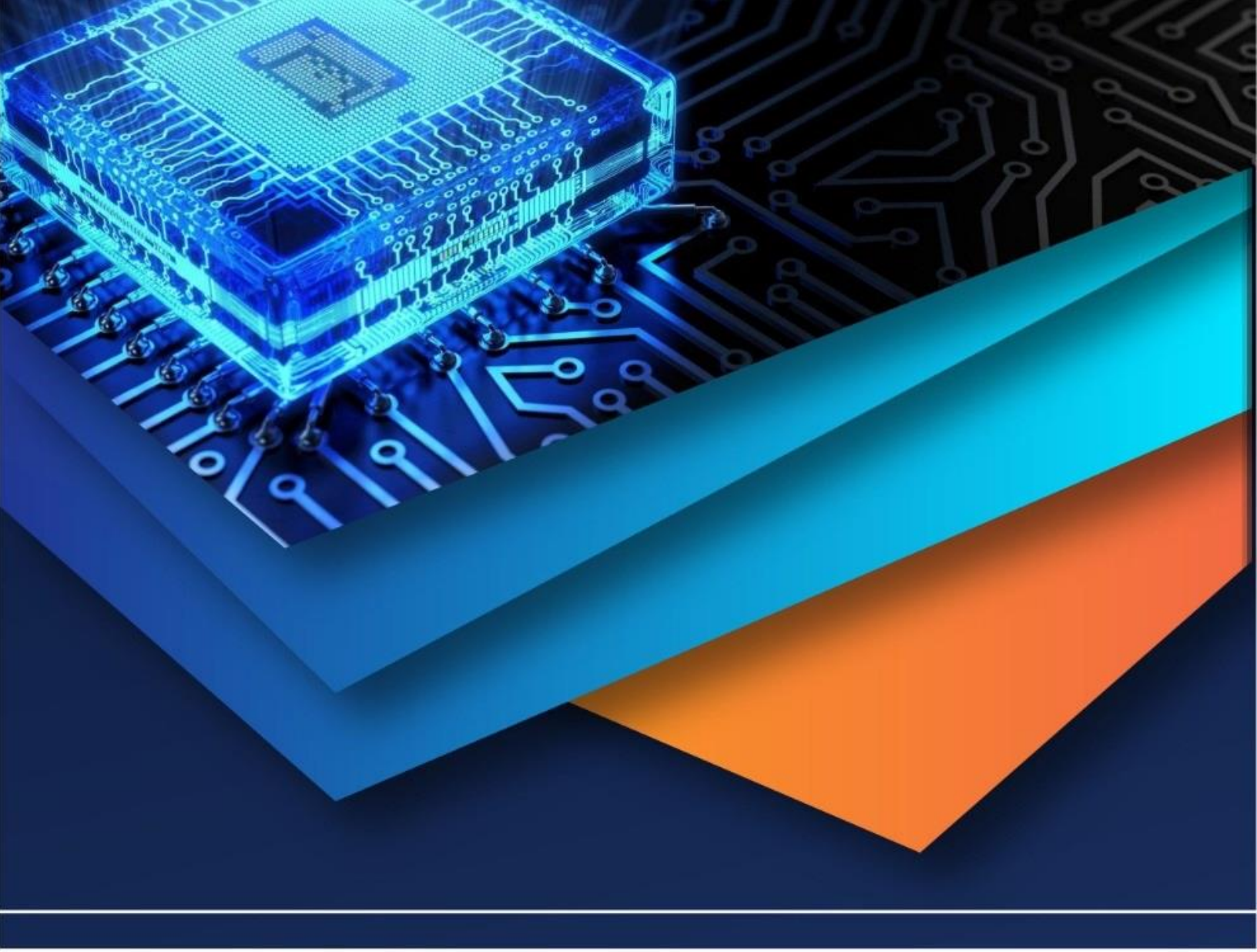
The heading of the Acknowledgment section and the References section must not be numbered.

Causal Productions wishes to acknowledge Michael Shell and other contributors for developing and maintaining the IEEE LaTeX style files which have been used in the preparation of this template. To see the list of contributors, please refer to the top of file IEEETran.cls in the IEEE LaTeX distribution.

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