

# MedicBot: A New Virtual Assistance for the Children with Auditory Processing Disorder

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# Overview

- 1 Introduction
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# Introduction

- Auditory processing is defined as what we do with what we hear <sup>1</sup>
- Auditory Processing Disorder (APD) is a condition where someone has normal hearing, but the auditory system does not faithfully bring information to the brain <sup>2</sup>
- **Approximate 2-4% of school age children have APD** <sup>3</sup>

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<sup>1</sup>Katz & Tillery, 2004

<sup>2</sup><https://www.sac-oac.ca>

<sup>3</sup><http://www.ementalhealth.ca/>

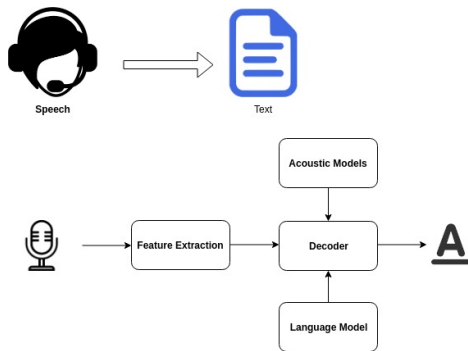
Propose an AI model (virtual assistance) to assist in diagnosing, monitoring, and training of the children with APD problem

- Diagnose APD symptoms based on conversation with the considered children
- Create a Training Therapy Model Assistance (adaptable)
- Build the Reinforcement Learning (RL) Model to monitor the progress of APD treatment

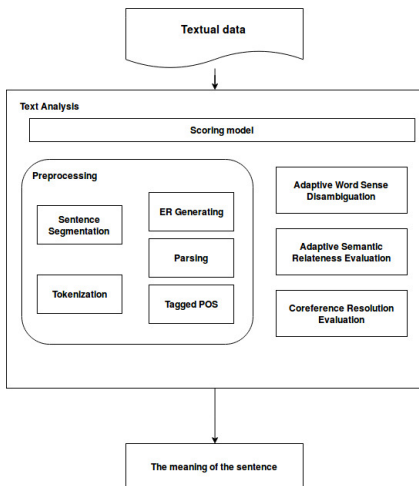
- Analysis the given APD symptoms by speech recognition based on Deep learning
- Analysis the given APD therapy and recommend the treatment to the APD children. Apply a natural language processing (NLP) to generate sentences and exploit Deep learning to understand the context of the speech
- Monitoring the process of APD treatment by using speech and behavior recognition and analysis based on Deep learning

# Techniques

- Convert text to speech

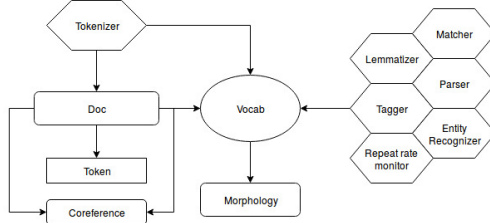


# Techniques



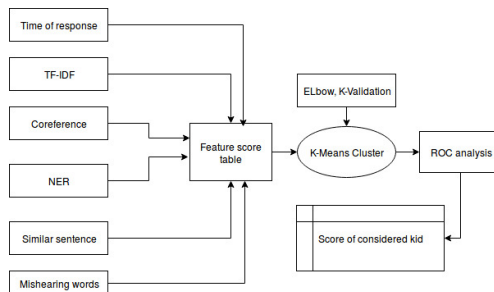
- Step 1: Get the raw text data from the user conversation
- Step 2: Process text go extract and compute the score of features based
- Step 3: Adapt word sense disambiguation
- Step 4: Evaluate the semantic relatedness and coreference resolution
- Step 5: Get the meaning of the sentence

## Preprocessing



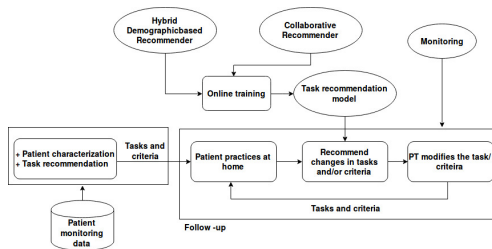


## Scoring model



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