Sai Krishna Rallabandi

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Home Page

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Accepted Publications

Journals

IJDL 2015 **Speaker Anonymization as a privacy preserving mechanism with application to Oral Personal Histories**, Padmini Bandi, Sai Krishna, Suryakanth V Gangashetty.

Conferences

INTERSPEECH 2015 **IIIT-H's Entry to Blizzard Challange 2015**, Sai Krishna, Anandaswaroop, Sivanand Achanta, Suryakanth V Gangashetty.

ICON 2014 **Significance of Paralinguistic Cues in Rendering Mathematical Equations**, Venkatesh Potluri, Sai Krishna, Priyanka Srivastava, Kishore Prahallad.

XRCI 2015 **FingerSnap based Biometric Authentication Mechanism**, Sai Krishna, Priyanka Veeramosu, Kishore Prahallad.

Projects

Research Projects

Whisper to Normal Speech Conversion, IIIT-Hyd.

This project aims at converting the whisper speech into normal speech by identifying the unvoiced segments and then mapping the fundamental frequency(F0)

Text to Speech in Indian Languages, IIIT-Hyd.

This project aims at developing Text to Speech systems in 13 Indian languages on Android platform.

Finger Snap Biometric Authentication, *IIIT-HYD.*

Finger snapping sound follows a distinct pattern and is a very prominent single frequency dominated signal, although some harmonics might occur. The dominant frequency can therefore be used to design the model to identify the person based on it. We investigate the methods to differentiate the users based on their snapping pattern so that they can be used as authentication mechanisms.

Whistle Based Biometric Authentication, IIIT-HYD.

This project aims to investigate the methods to differentiate the users based on their whistling pattern so that they can be used as authentication mechanisms. Recognition of the speaker based on the frequency contour was performed with over 90% accuracy using the contour similarity approaches for 20 individuals.

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Duration Modeling to Increase the Intelligibility of Text to Speech Systems, IIIT-HYD.

This project aims at modelling the durations of the individual phones in Indian languages on a context dependent framework to enhance the intelligibility and the naturalness of the synthesized speech.

Analysis on the effect of Blood Pressure Speech segments, IIIT-HYD.

In this work, we examine the variations caused in the speech parameters due to the changes in the blood pressure and try to quantify them using Regression modelling.

Automatic Recogniton of Emotions, NRIIT.

Automatic Emotion Recognition is the mechanism in which the machine or the robot or the computer is able to recognise the emotions of the person based on the instincts. This project mainly is concentrated via the speech instincts, as speech is the most natural form of communication as far as the humans are concerned.

Analysis on Speech segments, *IIIT-HYD*.

In this work, we experiment with the different kinds of filler phrases such as verbal and non verbal fillers, currencies, abbreviations, etc present in the speech and analyses the importance of the same in spontaneous speech.

Privacy in Oral Personal History, IIIT-HYD.

This project aims at collecting the spoken data about their lives from people from different background and analysing various aspects from the collected data. The projections include voice conversion, synthesis, embedding emotions and prosody into the synthesized voices, etc

Miscellaneous Projects

Data Collection in Oral Personal History, *IIIT-HYD*.

This project aims at collecting the spoken data about their lives from people from different background and analysing various aspects from the collected data. The projections include voice conversion, synthesis, embedding emotions and prosody into the synthesized voices, etc

Low Vision Aid Apps, *MIT Media Lab Workshop*.

Participated and created an android app for low vision people which enhances the contrast and magnifies the live camera feed. It also identifies the color of the obstacle. The information about the obstacle distance and its height are rendered to the user using TTS system. It also identifies obstacle free path.

Hackathon, *Microsoft Hackathon*.

Participated and created a windows phone application which trains the user on his accent. The app has three accents: US,UK and Australian. In this project, the correct pronunciation of the word was taken as reference and then compared with input using DTW (Dynamic Time Warping) algorithm, VQ (Vector Quantization) codebook approach

Personalised Interactive Signal Viewer, *IIIT-HYD*.

This is an interactive signal viewer which has customised options to deal with the data cleaning and preprocessing steps and provide the user with predictive analysis

Personalised Signal Transcriber, *IIIT-HYD*.

This is a personalised web browser which is controlled by the unique voiceprint of the person. It has customised options to store the history and origanise the webpages viewed, etc.

Personalised Voice Activated Browser, *IIIT-HYD* .

This is an online webapp which automatically transcribes the audio file into text format using EHMM

Workshops

Attended BootCamp by MIT Media Labs at LV Prasad Eye Institute, Hyderabad.
Organised Workshop on Image and Signal Processing 2014 at IIIT-Hyderabad.
Attended Workshop on Polymer CodeLabs at Google-India Pvt Ltd, Hyderabad.
Attended Workshop on Elastic Search using MongoDB.
Attended Workshop on Elastic Search using Apache Spark.

Computer skills

Programming

Basic	R
Intermediate	PHP, C, C++, LaTeX, HTML,CSS,Java Script,Octave
Advanced	Perl,Python, Matlab, Android
Frameworks and Platforms	Zend, web2py, Angular, Node, MongoDB, Polymer, Ionic, Cordova

Machine Learning Toolkits

External	Pylearn2, Torch
Own	Matlab and C++ based Neural Network Frameworks