

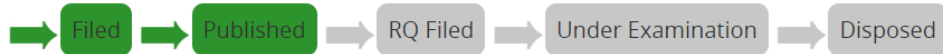


#### Application Details

APPLICATION NUMBER	201721007717
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	05/03/2017
APPLICANT NAME	1 . Dr. J Sirisha Devi 2 . Dr. G Mallikarjuna Rao 3 . Dr. Sanjay Kumar Boddhu
TITLE OF INVENTION	METHOD AND APPARATUS FOR FACILITATING TEXT INDEPENDENT SPEAKER VERIFICATION
FIELD OF INVENTION	ELECTRONICS
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E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	01/06/2018

#### Application Status

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## Patent Search

Invention Title	METHOD AND APPARATUS FOR FACILITATING TEXT INDEPENDENT SPEAKER VERIFICATION
Publication Number	22/2018
Publication Date	01/06/2018
Publication Type	INA
Application Number	201721007717
Application Filing Date	05/03/2017
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRONICS
Classification (IPC)	G10L 15/00 G10L 17/00

### Inventor

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### Applicant

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### Abstract:

A method and apparatus for text independent speaker verification is disclosed. At least one speech signal is received by the processor of the apparatus. The at least one speech signal includes one or more acoustic holes. The one or more acoustic holes of the at least one speech signal are filled. The filling of the one or more acoustic holes is achieved using a plurality of phonemes of one or more cohort speakers. One or more features from at least one acoustically filled speech signal are extracted. One or more feature subsets from the one or more extracted features of the at least one acoustically filled speech signal are selected. At least one speaker is verified using the one or more feature subsets selected from the one or more extracted features of the at least one acoustically filled speech signal.

### Complete Specification

Claims:  
CLAIMS  
We claim:

A computer-implemented method, comprising:  
receiving, by a processor, at least one speech signal, the at least one speech signal comprising one or more acoustic holes;  
configuring, by a processor, filling of the one or more acoustic holes of the at least one speech signal, the filling of the one or more acoustic holes achieved using a plurality of phonemes of one or more cohort speakers;  
configuring, by a processor, extracting of one or more features from at least one acoustically filled speech signal;  
configuring, by a processor, selection of one or more feature subsets from the one or more extracted features of the at least one acoustically filled speech signal; and  
verifying, by a processor, at least one speaker using the one or more feature subsets selected from the one or more extracted features of the at least one acoustically filled speech signal.

The method of claim 1, wherein the one or more acoustic holes of at least one speech signal may be generated by filtering the noise from the at least one speech signal.

The method of claim 2. further comprising:

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Page last updated on: 26/06/2019

<b>FORM 1</b>		<b>(FOR OFFICE USE ONLY)</b>			
THE PATENTS ACT 1970 (39 of 1970) and THE PATENTS RULES, 2003 <b>APPLICATION FOR GRANT OF PATENT</b> (See section 7, 54 and 135 and sub-rule (1) of rule 20)		Application No.			
		Filing date:			
		Amount of Fee paid:			
		CBR No:			
		Signature:			
<b>1. APPLICANT'S REFERENCE / IDENTIFICATION NO. (AS ALLOTTED BY OFFICE)</b>					
<b>2. TYPE OF APPLICATION [Please tick (✓) at the appropriate category]</b>					
Ordinary (✓)		Convention ( )		PCT-NP ( )	
Divisional ( )	Patent of Addition ( )	Divisional ( )	Patent of Addition ( )	Divisional ( )	Patent of Addition ( )
<b>3A. APPLICANT(S)</b>					
Name in Full		Nationality	Country of Residence	Address of the Applicant	
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				State	Andhrapradesh
				Country	India
				PIN code	530022
Dr. G Mallikarjuna Rao		Indian	India	House No.	Control System Laboratory
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				City	Hyderabad
				State	Telangana
				Country	India
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Dr. Sanjay Kumar Boddhu		Indian	United States of America	House No.	4408 Somerset path
				Street	-
				City	Dayton
				State	Ohio
				Country	United states of America
				PIN code	45440
<b>3B. CATEGORY OF APPLICANT [Please tick (✓) at the appropriate category]</b>					
Natural Person (✓)		Other than Natural Person			
		Small Entity ( )	Start up ( )	Others ( )	

<b>4. INVENTOR(S) [Please tick (✓) at the appropriate category]</b>					
Are all the inventor(s) same as the applicant(s) named above?		Yes (✓)		No ( )	
If "No", furnish the details of the inventor(s)					
Name in Full		Nationality	Country of Residence	Address of the Applicant	
				House No.	
				Street	
				City	
				State	
				Country	
				PIN code	
<b>5. TITLE OF THE INVENTION: METHOD AND APPARATUS FOR FACILITATING TEXT INDEPENDENT SPEAKER VERIFICATION</b>					
<b>6. AUTHORISED REGISTERED PATENT AGENT(S):</b>		IN/PA No.	IN/PA-1881		
		Name	Mohsin R. Arabiani		
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<b>7. ADDRESS FOR SERVICE OF APPLICANT IN INDIA:</b>		Name	Mohsin R. Arabiani		
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		Telephone No.	079-26825558		
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		Fax No.	N/A		
		E-mail ID	mohsinalmighty@gmail.com		
<b>8. IN CASE OF APPLICATION CLAIMING PRIORITY OF APPLICATION FILED IN CONVENTION COUNTRY, PARTICULARS OF CONVENTION APPLICATION: N/A</b>					
Country	Application Number	Filing date	Name of the applicant	Title of the invention	IPC (as classified in the convention country)
N/A	N/A	N/A	N/A	N/A	N/A
<b>9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT): N/A</b>					
International application number			International filing date		
N/A			N/A		
<b>10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL (FIRST) APPLICATION: N/A</b>					
Original (first) application No.			Date of filing of original (first) application		
N/A			N/A		
<b>11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT: N/A</b>					
Main application/patent No.			Date of filing of main application		
N/A			N/A		
<b>12. DECLARATIONS</b>					
<b>(i) Declaration by the inventors:</b>					

**(In case the applicant is an assignee:** the inventor(s) may sign herein below or the applicant may upload the assignment or enclose the assignment with this application for patent or send the assignment by post/ electronic transmission duly authenticated within the prescribed period).

We, the above named inventors are the true & first inventors for this Invention and declare that the applicant herein is our assignee or legal representative.

(a) Date: 05-Mar-2017

(b) Signature

(c) Name: **Dr. J Sirisha Devi**

(a) Date: 05-Mar-2017

(b) Signature

(c) Name: **Dr. G Mallikarjuna Rao**

(a) Date: 05-Mar-2017

(b) Signature

(c) Name: **Dr. Sanjay Kumar Boddhu**

**(ii) Declaration by the applicant(s) in the convention country: N/A**

**(In case the applicant in India is different than the applicant in the convention country:** the applicant in the convention country may sign herein below or applicant in India may upload the assignment from the applicant in the convention country or enclose the said assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period)

I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date

(b) Signature(s)

(c) Name(s) of the signatory

**(iii) Declaration by the applicant(s):**

We the applicants hereby declare that: -

I am/ We are in possession of the above-mentioned invention.

The ~~provisional~~/complete specification relating to the invention is filed with this application.

The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of

patent to me/us.

✓ There is no lawful ground of objection(s) to the grant of the Patent to me/us.

✓ I am/we are the true & first inventor(s).

X I am/we are the assignee or legal representative of true & first inventor(s).

X The application or each of the applications, particulars of which are given in Paragraph-8, was the first application in convention country/countries in respect of my/our invention(s).

X I/We claim the priority from the above mentioned application(s) filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title.

X My/our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Paragraph-9.

X The application is divided out of my /our application particulars of which is given in Paragraph-10 and pray that this application may be treated as deemed to have been filed on DD/MM/YYYY under section 16 of the Act.

X The said invention is an improvement in or modification of the invention particulars of which are given in Paragraph-11.

**13. FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION:**

**(a) Form 2**

Item	Details	Fee	Remark
Complete specification	28 pages	4960 = [1600 + (160 x 5 extra page) + (320 x 8 extra claims)]	For 5 extra sheets in addition to 30
No. of Claim(s)	18	320 x 8	For 8 extra claims in addition to 10
Abstract	1 page	-	1 page included above
No. of drawings	6	-	6 pages included above in extra

# In case of a complete specification, if the applicant desires to adopt the drawings filed with his provisional specification as the drawings or part of the drawings for the complete specification under rule 13(4), the number of such pages filed with the provisional specification are required to be mentioned here.

(b) Complete specification (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies). **N/A**

(c) Sequence listing in electronic form **N/A**

(d) Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies). **N/A**

(e) Priority document(s) or a request to retrieve the priority document(s) from DAS (Digital Access Service) if the applicant had already requested the office of first filing to make the priority

document(s) available to DAS. **N/A**

(f) Translation of priority document/Specification/International Search Report/International Preliminary Report on Patentability. **N/A**

(g) Statement and Undertaking on Form 3 (in duplicate)

(h) Declaration of Inventorship on Form 5 (in duplicate)

(i) Power of Authority

(j) .....

**Total fee ₹4960 paid online.**

We hereby declare that to the best of our knowledge, information and belief the fact and matters slated herein are correct and we request that a patent may be granted to us for the said invention.

Dated this 05<sup>th</sup> day of March, 2017

Signature: \_\_\_\_\_

Name: Mohsin R. Arabiani  
(Agent for the applicants)

**To,  
The Controller of Patents  
The Patent Office, at Chennai**

Note: -

\* Repeat boxes in case of more than one entry.

\* To be signed by the applicant(s) or by authorized registered patent agent otherwise where mentioned.

\* Tick (✓)/cross (x) whichever is applicable/not applicable in declaration in paragraph-12.

\* Name of the inventor and applicant should be given in full, family name in the beginning.

\* Strike out the portion which is/are not applicable.

\* For fee: See "First Schedule".