

Title (en)  
SPEAKER VOICE MASKING

Title (de)  
MASKIERUNG DER SPRECHERSPRACHE

Title (fr)  
MASQUAGE DE LA VOIX D'UN LOCUTEUR

Publication  
**EP 4290514 A1 20231213 (FR)**

Application  
**EP 23176415 A 20230531**

Priority  
FR 2205507 A 20220608

Abstract (en)  
[origin: US2023410825A1] A method includes masking the voice of a speaker by intentionally altering the pitch and the timbre of their voice. An audio signal corresponding to an original recording of the voice of the speaker is divided (11) into a series of successive audio segments of a determined constant duration. A rising frequency alteration (12a) is applied to a timbre (A) extracted from each audio segment. A falling frequency alteration (12b) is applied to a pitch (B) extracted from each audio segment. The altered pitch and the altered timbre of the audio segment are combined (14) so as to form a single resulting altered audio segment. From one audio segment to another in the series of audio segments, a variation (13a) of the rising alteration and a variation (13b) of the falling alteration are applied. These variations fluctuate randomly from one audio segment to another in the series of audio segments.

Abstract (fr)  
L'invention concerne le masquage de la voix d'un locuteur par altération intentionnelle de la hauteur et du timbre de la voix. Un signal audio correspondant à un enregistrement original de la voix du locuteur est découpé (11) en une série de segments audios successifs de durée constante déterminée. Une altération de fréquence ascendante (12a) est appliquée à un timbre (A) extrait de chaque segment audio. Une altération de fréquence descendante (12b) est appliquée à une hauteur (B) extraite du segment audio. La hauteur altérée et le timbre altéré du segment audio sont combinés (14) pour former un unique segment audio altéré résultant. D'un segment audio à l'autre dans la série des segments audios on applique une variation (13a) de l'altération ascendante et une variation (13b) de l'altération descendante. Ces variations fluctuent aléatoirement d'un segment audio à l'autre dans la série des segments audios.

IPC 8 full level  
**G10L 21/007** (2013.01)

CPC (source: EP US)  
**G10L 21/007** (2013.01 - EP); **G10L 21/013** (2013.01 - US)

Citation (applicant)  
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• IN-CHUL YOO ET AL.: "Proceedings of Access", vol. 8, 2020, IEEE, article "Speaker Anonymization for Personal Information Protection Using Voice conversion Techniques", pages: 198637 - 198645  
• FUMING FAN ET AL.: "Speaker Anonymization Using X-vector and Neural Vllaveform Models", PROCEEDINGS OF 10TH ISCA SPEECH SYNTHESIS WORKSHOP, 20 September 2019 (2019-09-20), pages 155 - 160  
• "Workshop on Machine Learning in Speech and Language Processing (MLSLP)", 2021, INTERNATIONAL AUDIO LABORATORIES, article "Exploring the Importance of FO Trajectories for Speaker Anonymization using x-vectors and Neural Vllaveform Models", pages: 1 - 6  
• PATINO J: "COMPUTER SCIENCE, AUDIO AND SPEECH PROCESSING", September 2021, CORNELL UNIVERSITY, article "Speaker anonymization using the McAdams coefficients", pages: 1 - 5

Citation (search report)  
• [A] US 10141008 B1 20181127 - MARSH ANDREW TATANKA [US], et al  
• [A] KI-SEUNG LEE: "Statistical Approach for Voice Personality Transformation", IEEE TRANSACTIONS ON AUDIO, SPEECH AND LANGUAGE PROCESSING, IEEE, US, vol. 15, no. 2, 1 February 2007 (2007-02-01), pages 641 - 651, XP011157512, ISSN: 1558-7916, DOI: 10.1109/TASL.2006.876760

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA

Designated validation state (EPC)  
KH MA MD TN

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