Title (en)
AUDIO SIGNAL PROCESSING SYSTEMS AND METHODS

Title (de)
AUDIOSIGNALVERARBEITUNGSSYSTEME UND -VERFAHREN

Title (fr)
SYSTÈMES ET PROCÉDÉS DE TRAITEMENT DE SIGNAL AUDIO

Publication
EP 4002361 A1 20220525 (EN)

Application
EP 21190382 A 20210809

Priority
GB 202018375 A 20201123

Abstract (en)
An audio signal detection system comprising a signal processing unit, the system comprising a receiver for receiving an audio signal input having a plurality of audio frequency bands; the signal processing unit comprising at least one signal processing module configured to perform the steps of: processing the audio signal input to provide a frequency domain converted signal input; providing a first signal path comprising the step of employing a neural network for running a machine-learned model to receive the converted signal input and provide a first output representing a primary filter; providing a second signal path to reconstruct the audio signal input; and applying the primary filter to the frequency-domain representation of the audio signal input to provide a signal output.

IPC 8 full level
G10L 21/0208 (2013.01); **G10L 21/0232** (2013.01); **G10L 25/30** (2013.01)

CPC (source: EP)
G10L 21/0208 (2013.01); **G10L 21/0232** (2013.01); **G10L 25/30** (2013.01)

Citation (search report)
- [XI] EP 2151822 A1 20100210 - FRAUNHOFER GES FORSCHUNG [DE]
- [Y] US 2019080710 A1 20190314 - ZHANG MI [US], et al
- [XY] VALIN JEAN-MARC: "A Hybrid DSP/Deep Learning Approach to Real-Time Full-Band Speech Enhancement", 2018 IEEE 20TH INTERNATIONAL WORKSHOP ON MULTIMEDIA SIGNAL PROCESSING (MMSP), 31 May 2018 (2018-05-31), pages 1 - 5, XP055783657, ISBN: 978-1-5386-6070-6, Retrieved from the Internet <URL:https://arxiv.org/pdf/1709.08243.pdf> DOI: 10.1109/MMSP.2018.8547084
- [A] BORGSTROM BENGT J ET AL: "Improving Statistical Model-Based Speech Enhancement with Deep Neural Networks", 2018 16TH INTERNATIONAL WORKSHOP ON ACOUSTIC SIGNAL ENHANCEMENT (IWAENC), IEEE, 17 September 2018 (2018-09-17), pages 471 - 475, XP033439100, DOI: 10.1109/IWAENC.2018.8521382
- [A] SALEEM N ET AL: "Spectral Phase Estimation Based on Deep Neural Networks for Single Channel Speech Enhancement", JOURNAL OF COMMUNICATIONS TECHNOLOGY AND ELECTRONICS, NAUKA/INTERPERIODICA PUBLISHING, MOSCOW, RU, vol. 64, no. 12, 1 December 2019 (2019-12-01), pages 1372 - 1382, XP037029872, ISSN: 1064-2269, [retrieved on 20200221], DOI: 10.1134/S1064226919120155
- [A] JAMAL NOREZMI ET AL: "A Hybrid Approach for Single Channel Speech Enhancement using Deep Neural Network and Harmonic Regeneration Noise Reduction", IJACSA) INTERNATIONAL JOURNAL OF ADVANCED COMPUTER SCIENCE AND APPLICATIONS, vol. 11, 1 January 2020 (2020-01-01), XP055880063, Retrieved from the Internet <URL:https://thesai.org/Downloads/Volume11No10/Paper_33-A_Hybrid_Approach_for_Single_Channel_Speech_Enhancement.pdf>

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 MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 4002361 A1 20220525; GB 202018375 D0 20210106; WO 2022106691 A1 20220527

DOCDB simple family (application)
EP 21190382 A 20210809; EP 2021082520 W 20211122; GB 202018375 A 20201123