TECHNOLOGY PROFILE

PATENT ES P201600539

CARACHTERISTICS

System for software or hardware and software implementation that synthesizes text simulating to real writers with different degrees of learning or neurological and motor capacities. It that does not require original text of a real writer.

ADVANTAGES

It simulates a temporal evolution learning process, which allows to compare the learning process of a real writer with parameters of normality for their age range.

The system simulates processes of temporal evolution of neurodegenerative diseases, allowing to compare the evolution of real patients with parameters of normality for those diseases.

Research of University of Las Palmas de Gran Canaria

METHOD AND SYSTEM FOR GENERATING MANUSCRIPT TEXT WITH DIFFERENT DEGREES OF WRITER MATURITY

Method for software implementation which generates handwritten texts as similar as possible to the human text. It simulates also the evolution in learning of the writer in the time. It also simulates the evolution of the writer by other parameters, such as the incidence of neurodegenerative diseases such as Parkinson's or Alzheimer's.

Original research studies

Division of Digital Signal Processing (DPDS) at IDETIC, ULPGC

It has been evaluated the ability to synthesize static and dynamic handwriting using a single valid model to synthesize a writer of any age. The results obtained in the ULPGC research suggest the possibility of using the synthesizer in different areas beyond the generation of unlimited databases for biometric training.

What is the innovation?

The existing methods do not solve the problem of generating handwritten text with different degrees of maturity of the writer, which simulates the evolution of the writer. It allows, by means of the minimum number of parameters, to simulate both the positions of the pen or pencil in time, as the way of writing depending on the age or the time of learning of the writer. In addition, this system makes possible to generate writers' manuscripts with possible neurological and motor dysfunctions.

The invention allows to solve technical problems in handwriting OCR, improving its recognition capability, as well as the addition of new layers of security in the generation of CAPTCHAS (increase of the complexity of reading for robots); improves the identification of the writer; provides an improvement in the monitoring and screening of neurodegenerative diseases, as well as dysgraphia.

"Wide range of applications." – "Almost immediate application in the study of neurodegenerative diseases"

INVENTORS

ULPGC

María Cristina Carmona Duarte

Telecommunications Engineer and PhD of the University of Las Palmas de Gran Canaria. She has been an associate professor at the University, where she has worked as a researcher. Her research areas include high resolution radar technologies, pattern recognition and biometrics.

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Telecommunications Engineer and PhD by the Technical University of Madrid (Universidad Politécnica de Madrid). He has been a professor since 2016 at the University of Las Palmas de Gran Canaria. His research areas include pattern recognition, biometrics, databases and audio quality assessment.

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State of the art

The invention has been tested; synthesized text has been compared to real data from children and adults.

There is a development for the inclusion of the invention in commercial platforms for teaching. GetWriting®

Sectors of industrial application

Pedagogy, teaching, education, Optical Character Recognition, OCR, software security, CAPTCHA, Completely Automated Public Turing test to tell Computers and Humans Apart, text digitizing, neurology, neurodegenerative disorders diagnosis.

INTELLECTUAL PROPERTY

Patent – Know How

Applicant: Universidad de Las Palmas de Gran Canaria (100%)

Application number: P201600539 (17/06/2016)

Publication number: not available.

CIP: not available. CPC: not available.

Available for international extension of the patent.

Specific knowledge about the research, available for the development and market placing.

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