Title: METHOD AND SYSTEM FOR 3D LIP-SYNCH GENERATION WITH DATA FAITHFUL MACHINE LEARNING

Abstract: A method for generating three-dimensional speech animation is provided using data-driven and machine learning approaches. It utilizes the most relevant part of the captured utterances for the synthesis of input phoneme sequences. If highly relevant data are missing or lacking, then it utilizes less relevant (but more abundant) data and relies more heavily on machine learning for the lip-synch generation.
Published:

— with international search report (Art. 21(3))
A. CLASSIFICATION OF SUBJECT MATTER

G06T 15/70(2006.01)1, GIOL 15/22(2006.01)1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06T 15/70, G06T 13/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

(Chinese Patents and application for patent)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords 3D, lip-synch

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 6654018 BI (ERIC COSATTO et al.) 25 November 2003 See column 2, line 60 - column 5, line 50; figures 1 and 2.</td>
<td>1-13</td>
</tr>
<tr>
<td>A</td>
<td>US 6539354 BI (STEPHEN SUTTON et al.) 25 March 2003 See column 7, line 41 - column 8, line 49, column 21, lines 21 - 64; figures 1 and 11.</td>
<td>1-13</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C

See patent family annex

* Special categories of cited documents
  *A* document defining the general state of the art which is not considered to be of particular relevance
  *E* earlier application or patent but published on or after the international filing date
  *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
  *O* document referring to an oral disclosure, use, exhibition or other means
  *P* document published prior to the international filing date but later than the priority date claimed
  "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
  "X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
  "Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
  "&" document member of the same patent family

Date of the actual completion of the international search

10 MARCH 2010 (10 03 2010)

Date of mailing of the international search report

16 MARCH 2010 (16.03.2010)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejon, 139 Seonsa-ro, Seogu, Daejeon 302-701, Republic of Korea

Facsimile No 82-42-472-7140

Authorized officer

Cho, Nam Shin

Telephone No 82-42-481-8589

Form PCT/ISA/210 (second sheet) (July 2009)
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 6654018 B1</td>
<td>25.11.2003</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 6766299 B1</td>
<td>20.07.2004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WO 01-46947 A1</td>
<td>28.06.2001</td>
</tr>
<tr>
<td>US 6539354 B1</td>
<td>25.03.2003</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>