Title (en)

EMPLOYING THREE-DIMENSIONAL DATA PREDICTED FROM TWO-DIMENSIONAL IMAGES USING NEURAL NETWORKS FOR 3D MODELING APPLICATIONS

Title (de)

VERWENDUNG VON AUS ZWEIDIMENSIONALEN BILDERN VORHERGESAGTEN DREIDIMENSIONALEN DATEN MITTELS NEURONALER NETZE FÜR 3D-MODELLIERUNGSANWENDUNGEN

Title (fr)

UTILISATION DE DONNÉES TRIDIMENSIONNELLES PRÉDITES À PARTIR D'IMAGES BIDIMENSIONNELLES À L'AIDE DE RÉSEAUX NEURONAUX DESTINÉS À DES APPLICATIONS DE MODÉLISATION 3D

Publication

EP 3857451 A4 20220622 (EN)

Application

EP 19864640 A 20190925

Priority

- US 201816141558 A 20180925
- US 2019053040 W 20190925

Abstract (en)

[origin: WO2020069049A1] The disclosed subject matter is directed to employing machine learning models configured to predict 3D data from 2D images using deep learning techniques to derive 3D data for the 2D images. In some embodiments, a system is described comprising a memory that stores computer executable components, and a processor that executes the computer executable components stored in the memory. The computer executable components comprise a reception component configured to receive two-dimensional images, and a three-dimensional data derivation component configured to employ one or more three-dimensional data from two-dimensional data (3D-from-2D) neural network models to derive three-dimensional data for the two-dimensional images.

IPC 8 full level

G06N 3/02 (2006.01); G06N 3/04 (2006.01); G06N 3/08 (2006.01); G06N 7/00 (2006.01); G06T 7/50 (2017.01); G06T 7/593 (2017.01); G06T 17/00 (2006.01)

CPC (source: EP)

G06N 3/045 (2023.01); G06N 3/08 (2013.01); G06T 7/50 (2017.01); G06T 7/593 (2017.01); G06T 17/00 (2013.01); G06N 7/01 (2023.01); G06T 2207/20081 (2013.01); G06T 2207/20084 (2013.01)

Citation (search report)

- [XI] vol. 11210, 16 September 2018, SPRINGER INTERNATIONAL PUBLISHING, Cham, ISBN: 978-3-030-58594-5, article ZIOULIS NIKOLAOS ET AL: "OmniDepth: Dense Depth Estimation for Indoors Spherical Panoramas", pages: 453 - 471, XP055820431, DOI: 10.1007/978-3-030-01231-1_28
- [XI] ZHAO QIANG ET AL: "Distortion-aware CNNs for Spherical Images", PROCEEDINGS OF THE TWENTY-SEVENTH INTERNATIONAL JOINT CONFERENCE ON ARTIFICIAL INTELLIGENCE, 1 July 2018 (2018-07-01), California, pages 1198 - 1204, XP055879853, ISBN: 978-0-9992411-2-7, Retrieved from the Internet <URL:https://www.ijcai.org/proceedings/2018/0167.pdf> DOI: 10.24963/ijcai.2018/167
- [A] SU YU-CHUAN ET AL: "Learning Spherical Convolution for Fast Features from 360 deg Imagery", NIPS'17: PROCEEDINGS OF THE 31ST INTERNATIONAL CONFERENCE ON NEURAL INFORMATION PROCESSING SYSTEMS, 2 August 2017 (2017-08-02), XP055919745, Retrieved from the Internet <URL:https://proceedings.neurips.cc/paper/2017/file/0c74b7f78409a4022a2c4c5a5ca3ee19-Paper.pdf> [retrieved on 20220510]
- See also references of WO 2020069049A1

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

DOCDB simple family (publication)

WO 2020069049 A1 20200402; CN 112771539 A 20210507; CN 112771539 B 20230825; EP 3857451 A1 20210804; EP 3857451 A4 20220622

DOCDB simple family (application)

US 2019053040 W 20190925; CN 201980062890 A 20190925; EP 19864640 A 20190925