

Title (en)

CARRYING OUT AN APPLICATION USING AT LEAST ONE ROBOT

Title (de)

DURCHFÜHREN EINER APPLIKATION MITHILFE WENIGSTENS EINES ROBOTERS

Title (fr)

EXÉCUTION D'UNE APPLICATION À L'AIDE D'AU MOINS UN ROBOT

Publication

EP 3993959 A1 20220511 (DE)

Application

EP 20735370 A 20200629

Priority

- DE 102019209616 A 20190701
- DE 102020206924 A 20200603
- EP 2020068241 W 20200629

Abstract (en)

[origin: WO2021001312A1] The invention relates to a method for carrying out an application using at least one robot (1), comprising the steps, repeated multiple times: ascertaining (S100) a stochastic value of at least one robot parameter and/or at least one environmental model parameter, in particular on the basis of a specified stochastic parameter model and/or using at least one random generator (3a); and carrying out (S200) a simulation, in particular a multi-stage simulation, of the application on the basis of the ascertained stochastic value; the steps: training (S200, S500) at least one control agent and/or at least one classification agent using the simulations by means of machine learning, in particular training a first control agent and/or first classification agent by means of first stages of the simulations, and at least one additional control agent and/or additional classification agent by means of additional stages of the simulations; and carrying out (S600) the application using the robot; and at least one of the steps: configuring (S400) a controller of the robot, by means of which the application is carried out wholly or in part, on the basis of the trained control agent, in particular on the basis of the trained control agents; and/or classifying (S700) the application using the trained classification agent, in particular using the trained classification agents.

IPC 8 full level

B25J 9/16 (2006.01)

CPC (source: CN EP US)

B25J 9/161 (2013.01 - CN EP); **B25J 9/1664** (2013.01 - US); **B25J 9/1682** (2013.01 - CN); **G06N 3/02** (2013.01 - CN); **G06N 3/08** (2013.01 - CN); **B25J 9/163** (2013.01 - EP); **B25J 9/1671** (2013.01 - EP); **G05B 2219/33037** (2013.01 - EP)

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)

WO 2021001312 A1 20210107; CN 114051444 A 20220215; CN 114051444 B 20240426; EP 3993959 A1 20220511; US 2022339787 A1 20221027

DOCDB simple family (application)

EP 2020068241 W 20200629; CN 202080047210 A 20200629; EP 20735370 A 20200629; US 202017616757 A 20200629