

Title (en)  
MACHINE-LEARNED TILLAGE MALFUNCTION DETECTION IN AN AUTONOMOUS FARMING VEHICLE

Title (de)  
MASCHINENERLERLTE BODENBEARBEITUNGSFEHLFUNKTIONSERKENNUNG IN EINEM AUTONOMEN LANDWIRTSCHAFTLICHEN FAHRZEUG

Title (fr)  
DéTECTION DE DYSFONCTIONNEMENT DE LABOUR PAR APPRENTISSAGE AUTOMATIQUE DANS UN VÉHICULE AGRICOLE AUTONOME

Publication  
**EP 4231809 A1 20230830 (EN)**

Application  
**EP 21819638 A 20211103**

Priority

- US 202017126793 A 20201218
- US 202017126764 A 20201218
- US 202017126800 A 20201218
- US 2021057906 W 20211103

Abstract (en)  
[origin: WO2022132327A1] A detection system (210) detects malfunctions in an autonomous farming vehicle during an autonomous routine using one or more models and data from sensors (220) coupled to the autonomous farming vehicle. The models may include machine-learned models (310) trained on the sensor data and configured to identify objects indicative of an operational or malfunctioning component within a tilling assembly such as a tilling shank (350) or sweep (360). Additionally, a machine-learned model may be trained on sensor data to detect whether debris has plugged the tilling assembly of the autonomous farming vehicle (370). In response to detecting a malfunction or a plug, the detection system may modify the autonomous routine (e.g., pausing operation) or provide information for the malfunction to be addressed (e.g., the likely location of a malfunctioning sweep that has detached from the tilling assembly).

IPC 8 full level  
**A01B 49/06** (2006.01); **A01B 79/00** (2006.01); **G06N 3/02** (2006.01); **G06T 7/00** (2017.01)

CPC (source: EP)  
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Citation (search report)  
See references of WO 2022132327A1

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

Designated validation state (EPC)  
KH MA MD TN

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**US 2021057906 W 20211103**; CA 3202628 A 20211103; EP 21819638 A 20211103