(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 4 243 155 A8**

(12) **CORRECTED EUROPEAN PATENT APPLICATION**

(15) Correction information:
Corrected version no 1 (W1 A1)
Corrections, see
Bibliography INID code(s) 30

(48) Corrigendum issued on:
21.02.2024 Bulletin 2024/08

(43) Date of publication:
13.09.2023 Bulletin 2023/37

(21) Application number: **23153418.1**

(22) Date of filing: **26.01.2023**

(51) International Patent Classification (IPC):
H01M 10/42 *(2006.01)* ***G06T 7/00*** *(2017.01)*
H01M 50/249 *(2021.01)* ***G01B 11/02*** *(2006.01)*
G01B 11/22 *(2006.01)* ***G01B 11/30*** *(2006.01)*
B60L 53/80 *(2019.01)* ***B60L 58/10*** *(2019.01)*
B60L 3/00 *(2019.01)* ***B60S 5/06*** *(2019.01)*
G01N 21/88 *(2006.01)* *B60K 1/04* *(2019.01)*

(52) Cooperative Patent Classification (CPC):
B60L 53/80; B60L 3/0046; B60L 58/10;
G01N 21/95; G06T 7/0004; B60K 1/04;
B60K 2001/0455; G06T 2207/20084;
G06T 2207/30108; Y02T 10/70; Y02T 10/7072

(84) Designated Contracting States:
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 ME MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

(30) Priority: **07.03.2022 CN 202210216184**

(71) Applicant: **Nio Technology (Anhui) Co., Ltd**
Hefei City, Anhui 230611 (CN)

(72) Inventors:
- **DING, Shenyi**
  Hefei, Anhui, 230601 (CN)
- **WANG, Yifei**
  Heifei, Anhui, 230601 (CN)
- **LI, Binglei**
  Hefei, Anhui, 230601 (CN)
- **ZOU, Jiyong**
  Hefei, Anhui, 230601 (CN)

(74) Representative: **Vossius & Partner**
Patentanwälte Rechtsanwälte mbB
Siebertstraße 3
81675 München (DE)

(54) **BATTERY SWAP ABNORMALITY DETECTION METHOD, SYSTEM, COMPUTER-READABLE STORAGE MEDIUM, AND BATTERY SWAP STATION**

(57) The disclosure relates to a battery swap abnormality detection method, a system, a computer-readable storage medium, and a battery swap station. The battery swap abnormality detection method includes the following steps: S 100: obtaining battery swap process information of a vehicle with a battery to be swapped, and obtaining an image of a traction battery based on the battery swap process information; S200: detecting whether there is an abnormality in the traction battery based on the image and the battery swap process information by using an edge computing method, the edge computing method being implemented by an edge computing device arranged in a battery swap station; and S300: controlling a battery swap process in response to a detection result from the edge computing device. In the battery swap abnormality detection method, the system, the computer-readable storage medium, and the battery swap station according to the disclosure, a battery swap abnormality, particularly a traction battery abnormality, of a vehicle is detected near a data source by means of an edge computing device, such that the real-time performance and stability of detection can be ensured.

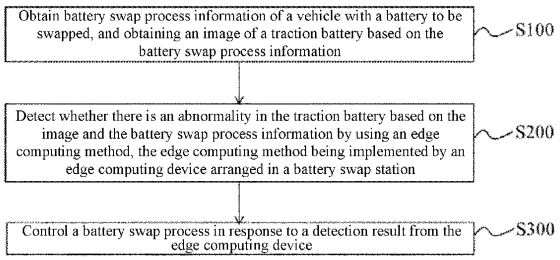

FIG. 1

EP 4 243 155 A8