

Patents

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Apparatus for identifying a livestock using a pattern and system for classifying livestock behavior pattern based on images using the apparatus and method thereof (KR102584357B1) → method for classifying livestock behavior patterns based on images.

The livestock behavior pattern classification system includes a database server storing individual cross-question image data sets of livestock animals managed within a farm. Extract an object image from images, estimate the posture of the object from the extracted object image, extract location information of the half-moon area of the object image based on the estimated posture, and extract the half-moon image of the half-moon area and the half-moon for each object. An object identification device that compares image data sets to identify objects and provides unique identification information for the objects; And a behavior pattern classification device that extracts movement data for the identified entities using the images and classifies the behavior patterns for each entity using the movement data, wherein each individual of the livestock animals in the farm is provided using the images. Provides classification of behavior patterns.

<https://worldwide.espacenet.com/patent/search?q=pn%3DKR102584357B1>

Japanese Patent Application Publication No. 2002-262712 → the present invention relates to a system, method, and program for estimating the amount of animal activity that can estimate the amount of feed eaten and water consumed by the animal.

<https://worldwide.espacenet.com/patent/search?q=pn%3DJP2023142611A>

Livestock image instance segmentation method and device based on deep learning (CN116824141A) → The invention relates to the field of computer vision technology, and in particular to a method and device for segmenting livestock image instances based on deep learning. The invention discloses a livestock image instance segmentation method and device based on deep learning, and relates to the field of computer vision. The method includes: collecting images of single livestock and multiple livestock as a data set; through improving the convolutional neural network ConvNeXt-T For image feature extraction, the feature pyramid is used to obtain feature maps of different scales; the improved DynamicRCNN network structure is used as

target detection to classify and position the targets in the feature map; the outline of the target in the feature map is carried out through the improved RefineMask segmentation network. Segmentation, using refinement strategies to obtain accurate segmentation results. The instance segmentation method proposed by the present invention can accurately locate and segment the irregular outline of each livestock in complex scenes, alleviating the challenges posed to other visual tasks due to the high overlap between the background and livestock.

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Electronic fence system for sheep breeding (CN116803250A) → The invention discloses an electronic fence system for sheep breeding, which includes a processor. The processor is respectively connected with a positioning module, a fusion module, an adjustment module, a management module, an energy supply module, an analysis module, an alarm module and an anti-interference module. The positioning module is connected to a GPS receiver, a memory and a receiving antenna, and the fusion module is connected to an accelerometer, a geomagnetic sensor and a gyroscope. By using high-precision positioning technology and using GPS to track the location of sheep, the present invention can provide more accurate positioning information, reduce false alarms, and better grasp the behaviour and location of sheep, and the fusion module combines different types of sensors, including accelerometers, geomagnetic sensors and gyroscopes, can more accurately detect and monitor sheep behaviour under a variety of environmental conditions, thereby improving system reliability.

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Characterization of pasture for improved and sustainable grazing and feeding management of livestock (EP4245133A1) → digital classification of pastures and provision of grazing and feeding plans for animals based on the classified pastures. A method comprising: digitally processing a plurality of aerial images of a terrain, each aerial image of the plurality showing a portion of the terrain; digitally partitioning the portion of the terrain into a plurality of paddocks; digitally processing animal data, the animal data at least comprising: geolocation data of at least one animal of a herd obtained at least during grazing of the at least one animal somewhere on the portion of the terrain, identification of an animal type of each animal of the herd at least during grazing of the at least one animal, and a number of animals in the herd at least during grazing of the at least one animal; and digitally estimating, based on both the digital processing of the aerial images and the animal data, quantity and, optionally, quality of the pasture in each paddock of the plurality of paddocks.

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3-Dimension object shape acquisition system and method (KR102578113B1) → The 3D object shape acquisition system includes an upper sensor located at the top of the 3D object and generating a top image by photographing the top of the 3D object, located on the left side of the 3D object, and the left side of the 3D object A left sensor that generates a left image by photographing, a right sensor located on the right side of the three-dimensional object and generating a right image by photographing the right side of the three-dimensional object, the position and overlap of the three-dimensional object from the upper image A control unit that calculates the degree of overlap and sequentially generates a plurality of image acquisition signals from a starting point based on the degree of overlap, and is triggered according to the plurality of image acquisition signals from the upper image, the left image, and the right image. It includes a restoration server that stores a plurality of target frames and generates a 3D biometric shape for the 3D object from the plurality of target frames.

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System and method for identifying deficiencies in nutrition value of feed mix for target animal (WO2023166474A1) → A system for identifying deficiencies in a nutrition value of a feed mix for an animal includes a memory including a nutrition profile database of nutritional requirements for the animal and the localised nutrition database of the localised nutritional values of each ingredient grown in locations.

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