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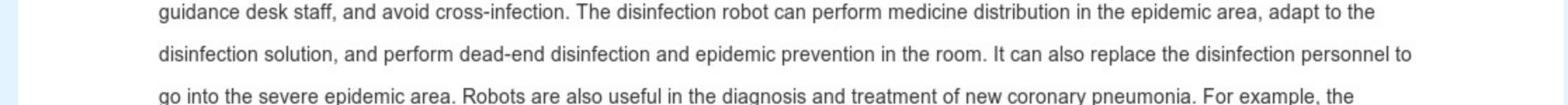
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[Internet technology tide] "wisdom" war epidemic these "black technology" show their skills

February 20, 2020 16:09   Source: China Netcom   [Font] [Error Correction]

At present, the prevention and control of new crown pneumonia is in a critical period. Information technologies such as 5G, cloud computing, artificial intelligence, and big data are gradually being applied to this war "outbreak" where gunpowder is invisible. A special edition of the "Internet Technology Tide" column is launched today to appreciate the power of these "black technologies" in the "epidemic".

Intelligent robot "on the go"

Recently, intelligent robots who are responsible for consultation, disinfection, cleaning, and drug delivery have been "posted" one after another. They have received a lot of praise in the fight against the new crown pneumonia epidemic.

The robot remotely diagnoses and treats patients with suspected new coronary pneumonia. Picture source network

Intelligent service robots can provide guidance services in the hospital lobby, publicize epidemic prevention knowledge, share the workload of guidance desk staff, and avoid cross-infection. The disinfection robot can perform medicine distribution in the epidemic area, adapt to the disinfection solution, and perform dead-end disinfection and epidemic prevention in the room. It can also replace the disinfection personnel to go into the severe epidemic area. Robots are also useful in the diagnosis and treatment of new coronary pneumonia. For example, the "Imaging Artificial Intelligence Pneumonia Assistant System" introduced by Beijing Haidian Hospital, 300 chest radiographs can be processed in only 10 seconds. The system is used to assist diagnosis and evaluate suspected cases of new coronary pneumonia, which greatly improves the diagnosis efficiency.

Remote consultations help fight the epidemic

The characteristics of 5G's large bandwidth and low latency make diagnosis and treatment more efficient, convenient, and safe, and have far-reaching significance for medical applications such as telemedicine.

In the afternoon of February 17, in the remote consultation center of the First Affiliated Hospital of China Medical University, the expert group was remotely consulting with patients with new coronary pneumonia in Xiangyang, Hubei. Photo by Wang Jingwei

At present, many places have relied on 5G networks to establish remote consultation systems, and have been applied in combat during epidemic prevention and control. Taking Sichuan as an example, the 5G remote consultation system created by the Sichuan Health and Health Commission and West China Hospital covers 27 designated hospitals in the province. A number of remote consultations have been successfully completed for patients with acute and severe infections with the new coronavirus pneumonia.

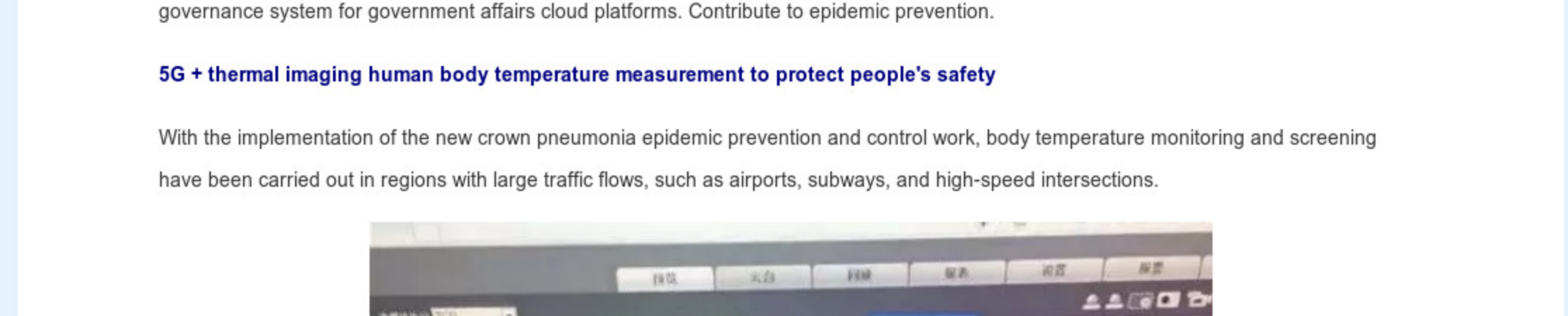## Cloud services help new drug development

The computing power of cloud computing is essential for viral gene sequencing and vaccine development. Recently, Alibaba Cloud announced that during the epidemic period, all AI computing power was freely available to global public scientific research institutions to accelerate the development of new pneumonia drugs and vaccines. During the development of new drugs and vaccines, a large amount of data analysis, large-scale literature screening and scientific supercomputing work are required. Cloud services can provide AI computing power, support viral gene sequencing, research and development of new drugs, and protein screening, helping scientific research institutions shorten the development cycle.

On February 3, the "National Government Service Platform" WeChat Mini Program officially launched the "New Pneumonia Epidemic Prevention and Control Topic". Tencent Cloud relied on cloud computing capabilities to build a unified standard and data sharing data governance system for government affairs cloud platforms. Contribute to epidemic prevention.

5G + thermal imaging human body temperature measurement to protect people's safety

With the implementation of the new crown pneumonia epidemic prevention and control, body temperature monitoring and screening have been carried out in regions with large traffic flows, such as airports, subways, and high-speed intersections.

The 5G + thermal imaging human body temperature information platform has monitoring and screening features such as "non-contact, high-precision body temperature screening, abnormal temperature alarm, and data report input". The target group is collected by infrared surveillance cameras, and the body temperature and heat source screening software is used. Radiation comparison. When a patient enters the detection area, the probe automatically warns the device of personnel whose body temperature exceeds the alarm temperature threshold, suspected fever symptoms, etc. At the same time, the data is transmitted back to the large screen or disease through the 5G network with large bandwidth and low delay. Control center and command center to achieve rapid and accurate body temperature screening and data recording for large-scale crowds.

Anomalous Person Trajectory Tracking System

A few days ago, the Shandong Provincial Department of Transportation and Ping An Group jointly launched a pilot application of the "Integrated Transportation System for Epidemic Prevention and Control".

The system can replace the traditional temperature measurement method in transportation hubs and important traffic prevention and control places, realize non-inductive, non-contact high-precision body temperature detection, quickly screen and identify high-temperature personnel, and simultaneously push related information to field staff and back-end monitoring. Center, to realize online early warning. At the same time, the system can also be based on AI + big data analysis, in-depth research and judgment, face recognition and other technologies at the back end to support the needs of key personnel with abnormal temperature backtracking and close contact with person tracking.

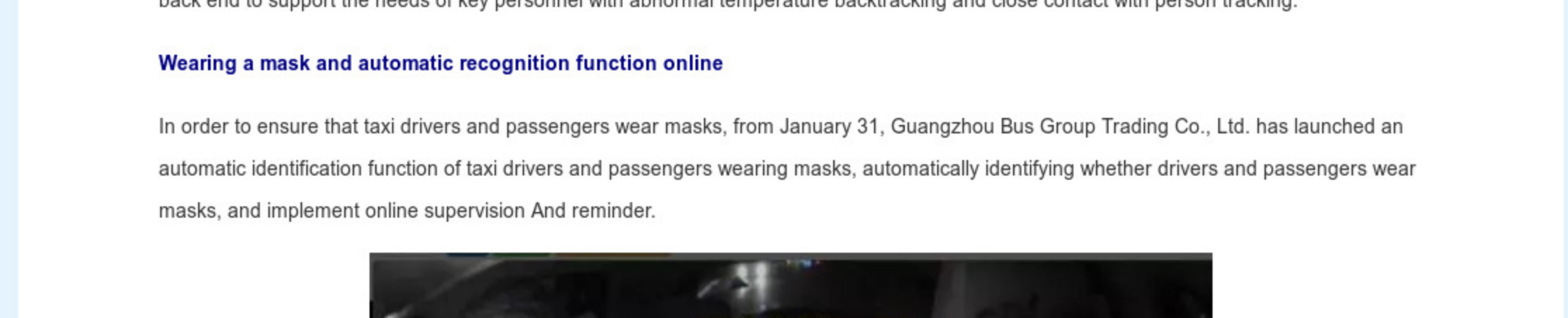## Wearing a mask and automatic recognition function online

In order to ensure that taxi drivers and passengers wear masks, from January 31, Guangzhou Baw Group Trading Co., Ltd. has launched an automatic identification function of taxi drivers and passengers wearing masks, automatically identifying whether drivers and passengers wear masks, and implement online supervision And reminder.

Using face recognition, behavior recognition and other technologies, supervisors can perform remote real-time monitoring of the masks worn by drivers or passengers in taxis, and implement online supervision and reminders. Managers do not need to go outside to carry out inspection and supervision. They can fully grasp the situation by looking at the "driving behavior" function in the background.
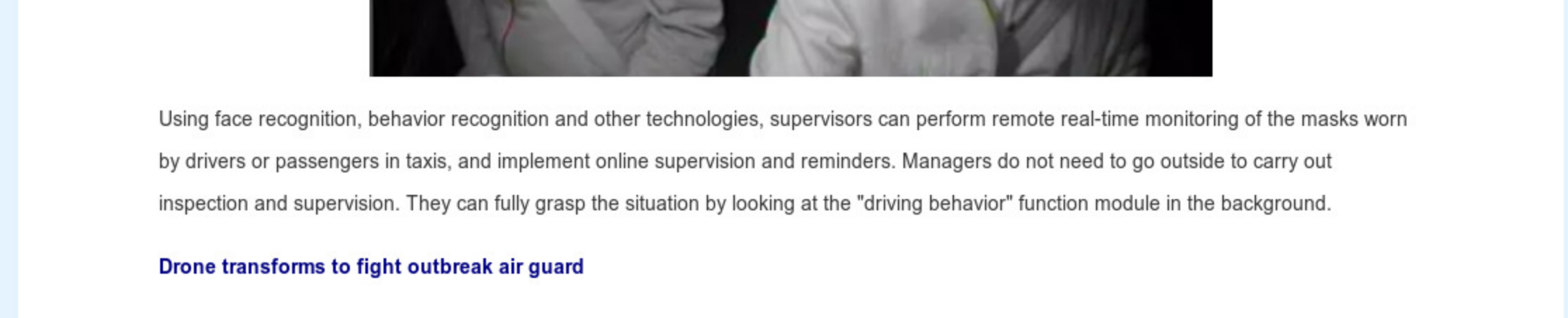
Drone transforms to fight outbreak air guard

"Grandma, don't go out without running a mask, don't run around, remember to hurry home" "Uncle, this is an extraordinary period, you go home and rest without a mask". A few days ago, the "hard core" prevention and control method of drone shouting across the country rushed to the Internet hot search. Many netizens said that this method is both new and effective.

Drone shouting grandma wearing a mask

Drones have shown unique advantages in helping to prevent and control the epidemic. For example, technicians use wireless walkie-talkies to transmit voice, and the masses can hear loud and clear publicity content within a range of 300 meters, which improves safety and transmission efficiency. In addition, drones can also be used to launch epidemic prevention equipment, designated disinfection, and air line monitoring.

Intelligent logistics distribution goes "forward"

JD Logistics' intelligent distribution robot is ready to deliver to residents. Photo by Xinhua News Agency reporter Lian Zhen
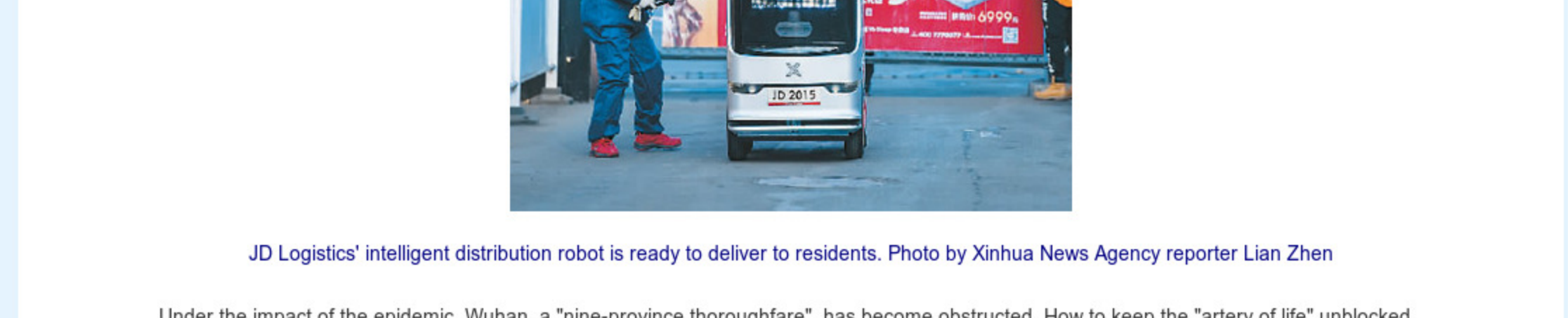
Under the impact of the epidemic, Wuhan, a "nine-province thoroughfare", has become obstructed. How to keep the "artery of life" unblocked during the anti-epidemic battle? Modern logistics systems have demonstrated their skills.

Cainiao cooperated with a number of domestic and foreign logistics companies to open a green channel to transport rescue materials to Wuhan for free, and opened the lifeline of global materials to help Hubei. JD.com's logistics center has a large amount of civilian biological reserves, and is equipped with intelligent equipment such as sorting AGV robots, which can achieve coordinated support through warehouse allocation and logistics transfer. At the same time, its logistics distribution robots have also been put on the "front line". With the expansion of the scale of intelligent distribution robots, these special "teriograbeers" will provide necessary materials for more hospitals in Wuhan.

Big data builds a "protection circle" for epidemic prevention

In epidemic prevention and control, the performance of big data is "bright", which not only helps the government to make scientific decisions and optimize the allocation of resources, but also allows the public to keep abreast of the development of the epidemic and actively scientifically prevent the epidemic.

Take 12306 as an example. As the world 's largest ticketing platform, 12306 uses the big data advantage of real-name ticket sales after the epidemic, and promptly cooperates with local governments and prevention and control agencies at all levels to provide information on close contacts on confirmed patient cars, which effectively promotes Prevention of epidemic situation.

Baidu Maps has launched thematic maps such as hot maps, maps of hotels designated by tourists from Hubei, as well as the quick report function of fever control news for the new crown pneumonia epidemic.

In addition, many Internet technology companies and institutions are also actively using artificial intelligence and big data technologies to extract valuable information to help prevent and control the epidemic. Such as the real-time big data report of epidemic situation, the same itinerary query tool for newly diagnosed patients with new coronary pneumonia, designated hotels of Hubei tourists, maps of popular clinics, etc ...; can basically achieve full coverage of epidemic-related information, which greatly improves the convenience of user information acquisition.