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# Coronavirus: How Artificial Intelligence, Data Science And Technology Is Used To Fight The Pandemic



**Bernard Marr** Contributor   
Enterprise Tech

**f** Since the first report of [coronavirus \(COVID-19\)](#) in Wuhan, China, it has spread to a least 100 other countries. As China initiated its response to the virus, it leaned on its strong technology sector and specifically artificial intelligence (AI), data science, and technology to track and fight the pandemic while tech leaders, including Alibaba, Baidu, Huawei and more accelerated their company's healthcare initiatives. As a result, tech startups are integrally involved with clinicians, academics, and government entities around the world to activate technology as the virus continues to spread to many other countries. Here are 10 ways artificial intelligence, data science and technology are being used to manage and fight COVID-19.

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Coronavirus: How Artificial Intelligence, Data Science And Technology Is Used To Fight The Pandemic ADOBE STOCK

## 1. AI to identify, track and forecast outbreaks

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an outbreak. Tracking infectious disease risks by using AI is exactly the service Canadian startup [BlueDot](#) provides. In fact, the BlueDot's AI warned of the threat several days before the Centers for Disease Control and Prevention or the World Health Organization issued their public warnings.

## 2. AI to help diagnose the virus

Artificial intelligence company [Infervision](#) launched a coronavirus AI solution that helps front-line healthcare workers detect and monitor the disease efficiently. Imaging departments in healthcare facilities are being taxed with the increased workload created by the virus. This solution improves CT diagnosis speed. Chinese e-commerce giant [Alibaba also built an AI-powered diagnosis system](#) they claim is 96% accurate at diagnosing the virus in seconds.

## 3. Process healthcare claims

It's not only the clinical operations of healthcare systems that are being taxed but also the business and administrative divisions as they deal with the surge of patients. A blockchain platform offered by Ant Financial helps speed up claims processing and reduces the amount of face-to-face interaction between patients and hospital staff.

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## 4. Drones deliver medical supplies

One of the safest and fastest ways to get medical supplies where they need to go during a disease outbreak is with drone delivery. [Terra Drone](#) is using its unmanned aerial vehicles to transport medical samples and quarantine material with minimal risk between Xinchang County's disease control centre and the People's Hospital. Drones also are used to patrol public spaces, track non-compliance to quarantine mandates, and for thermal imaging.

## 5. Robots sterilize, deliver food and supplies and perform other tasks

Robots aren't susceptible to the virus, so they are being deployed to complete many tasks such as cleaning and sterilizing and delivering food and medicine to reduce the amount of human-to-human contact. UVD robots from [Blue Ocean Robotics](#) use

hospitals around the country.

## 6. Develop drugs

Google's [DeepMind](#) division used its latest AI algorithms and its computing power to understand the proteins that might make up the virus, and published the findings to help others develop treatments. [BenevolentAI](#) uses AI systems to build drugs that can fight the world's toughest diseases and is now helping support the efforts to treat coronavirus, the first time the company focused its product on infectious diseases. Within weeks of the outbreak, it used its predictive capabilities to propose existing drugs that might be useful.

## 7. Advanced fabrics offer protection

Companies such as Israeli startup [Sonovia](#) hope to arm healthcare systems and others with face masks made from their anti-pathogen, anti-bacterial fabric that relies on metal-oxide nanoparticles.

## 8. AI to identify non-compliance or infected individuals

While certainly a controversial use of technology and AI, China's sophisticated surveillance system used facial recognition technology and temperature detection software from [SenseTime](#) to identify people who might have a fever and be more likely to have the virus. Similar technology powers "smart helmets" used by officials in Sichuan province to identify people with fevers. The Chinese government has also developed a [monitoring system](#) called Health Code that uses big data to identify and assesses the risk of each individual based on their travel history, how much time they have spent in virus hotspots, and potential exposure to people carrying the virus. Citizens are assigned a color code (red, yellow, or green), which they can access via the popular apps WeChat or Alipay to indicate if they should be quarantined or allowed in public.

## 9. Chatbots to share information

Tencent operates WeChat, and people can access free online health consultation services through it. Chatbots have also been essential communication tools for service

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## 10. Supercomputers working on a coronavirus vaccine

The cloud computing resources and supercomputers of several major tech companies such as Tencent, DiDi, and Huawei are being used by researchers to fast-track the development of a cure or vaccine for the virus. The speed these systems can run calculations and model solutions is much faster than standard computer processing.

In a global pandemic such as COVID-19, technology, artificial intelligence, and data science have become critical to helping societies effectively deal with the outbreak.

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For more on AI and technology trends, see Bernard Marr's book ***Artificial Intelligence in Practice: How 50 Companies Used AI and Machine Learning To Solve Problems*** and his forthcoming book ***Tech Trends in Practice: The 25 Technologies That Are Driving The 4<sup>th</sup> Industrial Revolution***, which is available to pre-order now.

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**Bernard Marr**

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# Step Up And Be Counted In The 2020 U.S. Census



**Fabienne Goldgaber** Brand Contributor  
**UNICEF USA BRANDVOICE** | Paid Program  
Leadership

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**Children under age 5 are routinely overlooked in the U.S. census. In 2020, let's make sure we're all accounted for.**



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Census Day is April 1st. You can respond online, by mail or over the phone. When children are undercounted, their needs cannot be addressed in policy and budget decisions. © UNICEF/UNI206989



allocation of billions of dollars to schools, hospitals, fire department, Federal programs and other resources for the coming decade.

## Why are children under 5 undercounted in the U.S. census?

Unfortunately, certain sectors of the population — like young children — are considered "hard to count" and at risk of being overlooked. Kids who live in large and complex households are often undercounted. If parents are separated, for example, which household should list the child? Children growing up in poverty, children living with grandparents or other relatives and children whose families do not speak English or whose families include immigrants are also likely to be missed and undercounted.

- According to the **United States Census Bureau**, approximately 1 million children under the age of 5 weren't counted in the 2010 census
- Count All Kids, a coalition of national, state and local children's organizations dedicated to ensuring an accurate census count of the nation's children, estimates that **the 2010 census missed more than 10 percent of all children under age 5 in the U.S.**, including **6.3 percent of black children and 7.5 percent of Hispanic children**
- An Urban Institute report examining states with large populations of historically undercounted groups found that **California has the greatest undercount risk in 2020**, followed by New York, Texas, New Mexico, Nevada, Georgia and Florida



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## Why complete the 2020 census?

Here are 4 reasons why it's important for **you** to complete the 2020 census:

- An undercount can lead to inadequate sanitation pick-up, a lack of green spaces and new health clinics, and overcrowded schools
- An undercount in your state can result in a loss of one or more Congressional seats, which means your community may lose representation in Washington, D.C.
- Results of the census will impact the allocation of billions of dollars of Federal funding to local communities for hospitals, fire departments and new roads. It will also affect Medicaid, Head Start, the Supplemental Nutrition Assistance Program (SNAP) and foster care, all of which rely on census data. An undercount can lead to funding cuts for these programs that are critical to children in the U.S.
- When children are undercounted, their needs cannot be addressed in policy and budget decisions. For the next ten years, policy makers will be forced to make decisions that will impact children based on funding allocation that does not fully reflect every child in their state and local community.

## Popular myths corrected: The facts about the census

With the 2020 Census rapidly approaching, it's time to tackle some popular myths about the census:

**MYTH:** My data will be shared with the government in ways that might be used against me.

**FACT:** It's against the law for the Census Bureau to publicly release your responses or for them to be used against you. Your responses to census inquiries can only be used to produce statistics.

**FACT:** 2020 census forms will be available online, by phone and by mail.

**MYTH:** The census asks about citizenship status.

**FACT:** The 2020 census does not have a U.S. citizenship status question. The purpose of the census is to get an accurate count of all residents of the U.S., regardless of citizenship status.

**“We need to participate in the census as if our life depends on it, because our quality of life absolutely depends on it.”**

Census Day is April 1st. By then, you should have received an invitation to participate in the 2020 census. You can respond online, by mail or over the phone.

At UNICEF USA, we believe every child in the U.S. has a right to health, education and protection. Making sure every child is counted is one way we can make our communities better places for children. In his recent State of the District Address, Representative Hakeem Jeffries (D-NY), chair of the House Democratic Caucus, stated, "We must ensure every single child, every single adult, every single household, every single block, every single neighborhood stands up and is counted. We need to participate in the census as if our life depended on it, because our quality of life absolutely depends on it."

**Use this map** to learn how the Census Bureau will be contacting households in your community inviting them to participate in the census. Help spread the word, **get involved with your local census office by hosting a workshop** and complete the census form to make sure all children are counted. **Read more about the 2020 United States census here.**



**Fabienne Goldgaber**

Fabienne Goldgaber is UNICEF USA Manager, Advocacy & Engagement based in New York City, where she also sits on the UNICEF Next Generation NYC steering and program... **Read More**



