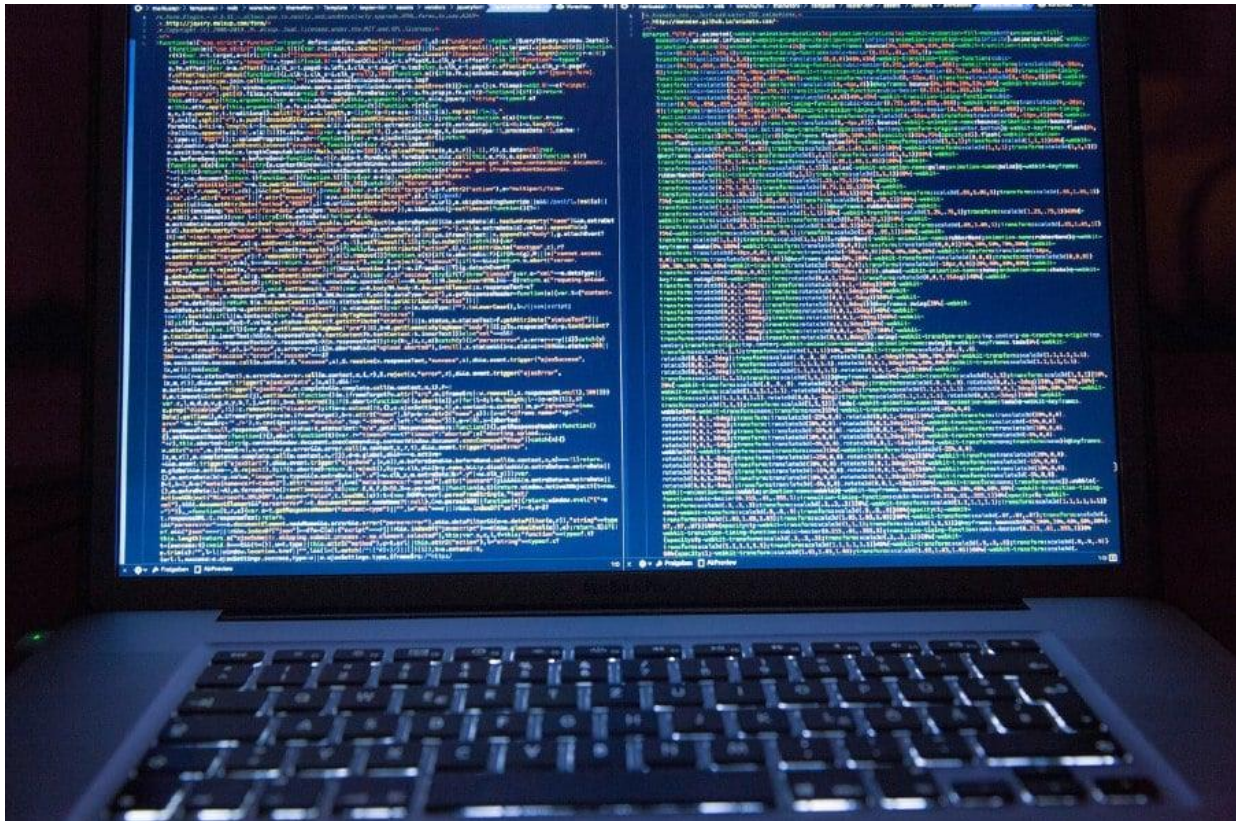


Skewed data feeding India's AI systems highlights biases

By Rina Chandran - September 12, 2023 @ 12:02am



-File pic, for illustration purpose only.

After communal clashes in Delhi's Jahangirpuri area last year, police said they used facial recognition technology to identify and arrest dozens of men, the second such instance after a more violent riot in the Indian capital in 2020.

In both cases, most of those charged were Muslim, leading human rights groups and tech experts to criticise India's use of the artificial intelligence-based technology to target poor, minority and marginalised groups in Delhi and elsewhere in the country.

As India rolls out AI tools that authorities say will increase efficiency and improve access, tech experts fear the lack of an official policy for the ethical use of AI will hurt people at the bottom, entrenching age-old biases, criminalising minorities and channelling most benefits to the rich.

"It is going to directly affect the people living on the fringes — the Dalits, the Muslims, the trans people. It will exacerbate bias and discrimination against them," said Shivangi Narayan, a researcher who has studied predictive policing in Delhi.

With a population of 1.4 billion powering the world's fifth-biggest economy, India is undergoing breakneck technological change, rolling out AI-based systems in spheres from health to education, agriculture to criminal justice, but with scant debate on their ethical implications, experts say.

In a nation beset by old and deep divisions, be it of class, religion, gender or wealth, researchers like Narayan, a member of the Algorithmic Governance Research Network, fear that AI risks exacerbating all these schisms.

"We think technology works objectively. But the databases being used to train AI systems are biased against caste, gender, religion, even location of residence, so they will exacerbate bias and discrimination against them," she said.

Facial recognition technology, which uses AI to match live images against a database of faces, is one of many AI applications that critics say risks more surveillance of Muslims, lower-caste Dalits, Indigenous Adivasis, transgender and other marginalised groups, all the while ignoring their needs.

Linking databases to a national ID system and a growing use of AI for loan approvals, hiring and background checks can slam doors shut on the marginalised, said Siva Mathiyazhagan, an assistant professor at the University of Pennsylvania.

The growing popularity of generative AI applications, such as chatbots, further exacerbates these biases, he said.

"If you ask a chatbot the names of 20 Indian doctors and professors, the suggestions are generally Hindu dominant-caste surnames — just one example of how unequal representations in data lead to caste-biased outcomes of generative AI systems," he told the Thomson Reuters Foundation.

Caste discrimination was outlawed in India 75 years ago, yet Dalits still face widespread abuse, many of their attempts at upward mobility met with violent oppression.

Underrepresented in higher education and good jobs despite affirmative action programmes, Dalits, Muslims and Indigenous people lag higher-caste Indians in smartphone ownership and social media use, studies show.

About half of India's population — primarily women, rural communities and Adivasis — lacks access to the Internet, so "entire communities may be missing or misrepresented in datasets ... leading to wrong conclusions and residual unfairness", analysis by Google Research showed in 2021.

The ramifications are widespread, not least, in healthcare.

"Rich-people problems like cardiac disease and cancer, not poor people's tuberculosis, are prioritised, exacerbating inequities among those who benefit from AI and those who do not," the Google analysis said.

Similarly, mobile safety apps that use data mapping to flag unsafe areas are skewed by middle-class users who tend to mark Dalit, Muslim and slum areas as dodgy, potentially leading to over-policing and unwarranted mass surveillance.

"The irony is that people who are not counted in these datasets are still subject to these data-driven systems, which reproduce bias and discrimination," said Urvashi Aneja, founding director of research collective Digital Futures Lab.

India's criminal databases are particularly problematic, as Muslims, Dalits and Indigenous people are arrested, charged and incarcerated at higher rates than others, official data show.

India does not have an AI law, only a strategy from government think tank NITI Aayog that states that AI systems must not discriminate on the basis of religion, race, caste, sex, descent, place of birth or residence, and that they must be audited to ensure they are impartial and free from bias.