

# New AI can tell if you're male or female from the way you smile

- **New research details the differences between male and female smiles**
- **The research gave way to AI that can predict a person's sex based on their smile**
- **The AI is the first of its kind that can make the prediction based on video footage**
- **Previous AI could make the prediction after looking at a photo of a smile**

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New artificial intelligence can predict your sex based on your smile.

Researchers at England's University of Bradford developed the AI after noticing marked differences between males' and females' smiles.

They hope to study the ways in which cosmetic procedures affect these differences as well as how the research applies to transgender people in the future.

Their study was published in The Visual Computer: International Journal of Computer Graphics.

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New research from the University of Bradford in England gave way to artificial intelligence that can predict a person's sex based on a video of them smiling. Researchers mapped out the differences between male and female smiles for the report

The University of Bradford researchers' new AI platform is a step above already existing technology that can determine one's sex based on a photograph of their smile.

The new report said: 'Although automatic gender recognition is already available, existing methods use static images and compare fixed facial features.

'The new research is the first to use the dynamic movement of the smile to automatically distinguish between men and women.'

For the study the researchers mapped out 49 facial landmarks, found mostly around the eyes, down the nose and near the mouth.

'They used these to assess how the face changes as we smile caused by the underlying muscle movements - including both changes in distances between the different points and the "flow" of the smile: how much, how far and how fast the

different points on the face moved as the smile was formed,' the analysis said.

Next the researchers analyzed whether or not there were significant differences between women and men's smiles.

They concluded that there were, and the scientists learned that women's smiles are more expansive.

Researcher Professor Hassan Ugail said: 'Anecdotally, women are thought to be more expressive in how they smile, and our research has borne this out.

'Women definitely have broader smiles, expanding their mouth and lip area far more than men.'

The team built an algorithm based on their analysis, and it was subsequently tested using video footage of more than 100 people smiling.

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The researchers found that men's smiles are less 'expansive' than women's. One of the scientists said that women expand their lip areas and mouths more than men do when they smile

'The computer was able to correctly determine gender in 86 percent of cases and the team believe the accuracy could easily be improved,' the report said.

Professor Ugail confirmed that the researchers think the technology can get better.

He said: 'We used a fairly simple machine classification for this research as we were just testing the concept, but more sophisticated AI would improve the recognition rates.'

The study said the point of the research was to 'enhance machine learning capabilities' but that the research has raised questions the team members want to investigate in the future.

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The researchers want to now study whether or not cosmetic surgery would impact the new AI's predictions

'One is how the machine might respond to the smile of a transgender person, and the other is the impact of plastic surgery on recognition rates,' the study said.

Professor Ugail said: 'Because this system measures the underlying muscle movement of the face during a smile, we believe these dynamics will remain the same even if external physical features change, following surgery, for example.

'This kind of facial recognition could become a next-generation biometric, as it's

not dependent on one feature but on a dynamic that's unique to an individual and would be very difficult to mimic or alter.'

Elon Musk calls for regulation of AI before 'it's too late'



## **WHY ARE PEOPLE SO WORRIED ABOUT AI?**

It is an issue troubling some of the greatest minds in the world at the moment, from Bill Gates and Elon Musk.

SpaceX and Tesla CEO Elon Musk described AI as our 'biggest existential threat' and likened its development as 'summoning the demon.'

He believes super intelligent machines could use humans as pets.

Professor Stephen Hawking said it is a 'near certainty' that a major technological disaster will threaten humanity in the next 1,000 to 10,000 years.

They could steal jobs

More than 60 per cent of people fear that robots will lead to there being fewer jobs in the next ten years, according to a 2016 YouGov survey.

And 27 per cent predict that it will decrease the number of jobs 'a lot' with previous research suggesting admin and service sector workers will be the hardest hit.

As well as posing a threat to our jobs, other experts believe AI could 'go rogue' and become too complex for scientists to understand.

A quarter of the respondents predicted robots will become part of everyday life in just 11 to 20 years, with 18 per cent predicting this will happen within the next decade.

They could 'go rogue'

Computer scientist Professor Michael Wooldridge said AI machines could become so intricate that engineers don't fully understand how they work.

If experts don't understand how AI algorithms function, they won't be able to predict when they fail.

This means driverless cars or intelligent robots could make unpredictable 'out of character' decisions during critical moments, which could put people in danger.

For instance, the AI behind a driverless car could choose to swerve into pedestrians or crash into barriers instead of deciding to drive sensibly.

They could wipe out humanity

Some people believe AI will wipe out humans completely.

'Eventually, I think human extinction will probably occur, and technology will likely play a part in this,' DeepMind's Shane Legg said in a recent interview.

He singled out artificial intelligence, or AI, as the 'number 1 risk for this century.'

In August last year, Musk warned that AI poses more of a threat to humanity than North Korea.

'If you're not concerned about AI safety, you should be. Vastly more risk than North Korea,' the 46-year-old wrote on Twitter.

'Nobody likes being regulated, but everything (cars, planes, food, drugs, etc) that's a danger to the public is regulated. AI should be too.'

Musk has consistently advocated for governments and private institutions to apply regulations on AI technology.

He has argued that controls are necessary in order protect machines from advancing out of human control

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