# U.S. PUBLIC ATTITUDES ON ARTIFICIAL INTELLIGENCE 

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## INTRODUCTION

The recent advances in artificial intelligence (AI) technology and machine learning are influencing an increasing range of industries and aspects of daily life. While there are many positive potential applications for Al technology, such as disease diagnosis and crime prediction, there are also concerns about the potential risks, unintended consequences, and impact on society that AI will have. This report offers a brief examination of how lay audiences in the United States perceive AI. We find that U.S. adults have mixed views of the implications of AI, in part due to an unfamiliarity of the technology. For example, respondents perceive both risks and benefits of AI, but have mixed views on the concern that Al will worsen discrimination. We also find that Al is not a highly polarized issue, but partisan differences exist in perceptions of trust in institutions to keep society's best interest in mind during AI development. At the same time, adults who use more technology and younger adults are more likely to support AI development. Similarly, those who pay more attention to science and technology news, are more educated, and have higher incomes show greater support for AI.

The following data are from a representative web-survey of U.S. adults aged 18 years and older, collected by YouGov from February through March of 2020. The sample size was 2,700 with a completion rate of $41.3 \%$.

## FINDINGS SUMMARY

While U.S. adults feel comfortable with, are interested in, and are excited for technology in general; the majority $(78.4 \%)$ agrees that "we often become too dependent on technology."

- Diversity of technology use is associated with greater excitement for new gadgets and technology. We refer to U.S. adults that have experience using 6 to 10 types of technological devices ${ }^{1}$ as "technophiles" ( $45.0 \%$ of the sample) and those that have used 0 to 5 types of technological devices as technology "laggards" ( $55.0 \%$ of the sample). The raw data tells us that $68.3 \%$ of technophiles agree that they are excited for new gadgets and technology, as compared to $40.3 \%$ of technology laggards.

But when it comes to the specific technology of artificial intelligence (AI), U.S. adults have mixed and sometimes conflicting perceptions.

- Half ( $50.0 \%$ ) of adults agree that "AI is useful for society" and over half ( $53.3 \%$ ) support research on AI. However, 52.4 percent of respondents do not think that "as a society, we are prepared for the potential effects of AI applications" and a majority agrees that "there will be unintended consequences of Al applications" (69.0\%).
- Similarly, U.S. adults think negative implications of AI are more likely than positive ones. For example, about two thirds ( $64.6 \%$ ) think it is likely, very likely, or certain that AI will "give some people too much power," half (49.9\%) think Al will "threaten personal liberties," and about two thirds (65.4\%) think Al will "displace workers by automating their jobs."
- We see a similar pattern for perceptions of the risks and benefits of AI. A majority of U.S. adults thinks that AI will be somewhat, mostly, or very beneficial for democratic society (65.0\%), themselves personally (59.4\%), and most Americans (68.3\%). At the same time, they

[^0]perceive Al to be a slightly higher risk for democratic society ( $76.1 \%$ somewhat, mostly, or very risky), themselves personally (62.2\%), and most Americans (73.8\%).

Concerns about different implications and applications of AI are also mixed.

- Individuals are concerned with some of the applications of AI. The greatest concern (concerned or very concerned) is for "foreign countries using AI-based algorithms to spread false information about candidates running for office" (55.8\%) and "Al-based algorithms being used to post misleading information on social media sites such as Facebook or Twitter" (55.0\%).
- U.S. adults express a range of concern levels about potential uses of Al such as smart personal assistants sharing audio recordings, employers using AI to screen job candidates, or the government collecting data about all Americans to assess who might be a terrorist threat.

These mixed perceptions are due, in part, to individuals' unfamiliarity with AI.

- Most U.S. adults do not consider themselves informed about various aspects of Al technology. In fact, less than 15 percent reporting being "mostly" or "very" informed about the science behind, applications of, regulatory questions about, or impacts of AI.
- Similarly, Americans are generally unaware of developments involving AI. Such developments include new flavors for plants ( $74.5 \%$ are not at all or very little aware), Al correctly answering questions on a science test (65.7\%), or police departments using algorithms to predict crime (52.3\%).
- On average, U.S. adults are correct on about 4 out of the 9 factual knowledge questions. About one-in-ten (13.4\%) know nothing at all about Al. To classify, those that answered 6 to 9 of the factual questions about AI correctly are considered to have "high" AI knowledge (24.3\%), whereas those that have "low" Al knowledge (39.0\%) answered 0 to 3 of the factual questions correctly. Those with "average" Al knowledge (36.7\%) answered 4 or 5 of the 9 questions correctly.

There is also generally low trust in various institutions to keep society's best interest in mind in the development of AI.

- People express the lowest amounts of trust (calculated with "mostly trust" and "trust very much") in Congress ( $8.5 \%$ ) and Facebook ( $9.5 \%$ ) to keep society's best interest in mind in the development of Al . While holding the highest trust in university scientists ( $23.2 \%$ ), law enforcement agencies such as the FBI (19.1\%), industry scientists (17.8\%), and the U.S. Court system (17.6\%).

Despite low levels of AI familiarity and trust, U.S. adults believe in the scientific approach of knowledge production and hold the belief that the public should have a say in scientific development.

- A majority of U.S. adults agrees that "science is the best way that society has for producing reliable knowledge," $(55.1 \%)$ and that "science is the best way to understand the world" (54.7\%).
- However, only about a quarter of U.S. adults agree (22.3\%) that "scientists know best what is good for the public," or that "scientists should be able to conduct their research without consulting the public" (27.8\%).
- Furthermore, U.S. adults agree (64.6\%) that "the public should have a say in how we apply scientific research and technology in society"


## SELECTED BREAKDOWN SUMMARY

Al is a relatively non-partisan issue...

- We see similar perceptions of risks across party lines. Republicans, Democrats, and Independents perceive similar levels of risks of AI for democratic society ( $76.3 \%, 75.0 \%$, and $75.5 \%$, respectively considering that AI being somewhat, mostly, or very risky). Those that consider themselves to "lean" Democrat or "lean" Republican (what we call "leaners") show slightly higher perceptions of risks (79.8\% and 82.3\%, respectively).
- At the same time, Democrats and Democrat leaners perceive greater benefits ( $71.3 \%$ and $70.1 \%$, respectively considering that AI being somewhat, mostly, or very beneficial) than Independents, Republican leaners, and Republicans (56.1\%, 60.3\%, and 61.2\%, respectively).
- There are some variations based on partisan extremity in perceptions that AI will cause unintended consequences. Leaners are the most likely to think there will be unintended consequences (D-leaners 84.3\%, R-leaners 79.8\%), and Independents are the least likely to perceive unintended consequences (61.0\%).
- Overall, Democrats and Democrat leaners support AI more (55.1\% and 52.7\%, respectively) than Republicans and Republican leaners ( $40.4 \%$ and $39.7 \%$, respectively), with Independents supporting AI the least among party identity (33.9\%).
...except when it comes to trust in institutions to keep society's best interest in mind during the development of AI technology.
- Trust in institutions is generally consistent across partisan lines, except for university scientists and the White House. Democrats and Democrat leaners have higher trust in university scientists than Independents, Republicans, and Republican leaners. Specifically, 79.4 percent of Democrats and 82.3 percent of Democrat leaners somewhat trust, mostly trust, or trust university scientists very much, as followed by Independents (50.2\%), Republicans (47.8\%) and Republican leaners (37.7\%).
- The opposite is true for trust in the White House. For example, 68.4 percent of Republicans and 62.8 percent of Republican leaners somewhat trust, mostly trust, or trust the White House very much, as followed by Independents (31.4\%), Democrat leaners (17.2\%), and Democrats (27.4\%).

Tech use and age, on the other hand, are associated with trust in institutions to protect data privacy, but knowledge about Al is not.

- Technophiles have greater trust in institutions to protect data privacy as compared to technology laggards. Technophiles trust (mostly trust or trust very much) university scientists (31.3\%), the White House (19.5\%), and Facebook (15.1\%) much more than technology laggards ( $15.0 \%, 13.0 \%$, and $3.8 \%$, respectively) to protect their data privacy.
- We also see that younger adults trust institutions more than older adults:
- Those between the ages of 18-25 trust (mostly trust or trust very much) Facebook (12.7\%) and Congress (15.6\%) much more than those 65 years old and older (5.1\% and $4.5 \%$, respectively) to protect their data privacy.
- Additionally, individuals with high AI knowledge distrust (do not / mostly do not trust) certain institutions such as Facebook (82.2\%) and the White House (66.0\%) more than those with low Al knowledge ( $68.2 \%$ and $57.9 \%$, respectively) to protect their data privacy.
- We do not see this difference in distrust based on knowledge for university scientists. Trust in university scientists is relatively consistent across those with low (45.6\%) and high (41.5\%) AI knowledge.

When it comes to overall support for Al technology, greater attention to news about science and technology and select demographics lead to greater support.

- Those who pay quite a bit or a lot of attention to science and technology news support the overall use of Al more (62.5\%) than those who pay no or very little attention to science and technology news $(24.8 \%)$. This relationship is also seen with belief in unintended consequences, which are higher for individuals with high attention to science news (76.9\%) compared to low attention individuals (54.7\%).
- We also see that those with lower incomes (<\$30k) support Al less (38.2\%) and are less likely to believe that there will be unintended consequences of AI ( $59.3 \%$ ) than high income individuals (100k+) ( $61.5 \%$ and $82.2 \%$, respectively).
- More education is also associated with greater support and greater belief in unintended consequences. A majority of U.S. adults with a 4 -year college degree or above have higher support for Al ( $81.9 \%$ ) and believe in unintended consequences of Al applications (58.0\%), compared to individuals with no high school education or less (34.7\% and 57.4\%, respectively).
- While there are minimal racial differences for support for AI, white Americans are more likely to perceive unintended consequences of $\mathrm{Al}(74.6 \%)$ as compared to non-white Americans (59.3\%).


## ABOUT THE SURVEY

This survey was conducted online by YouGov from February through March 2020. The final sample was 2,700 U.S. adults, with a completion rate of $41.3 \%$. Respondents were matched to a sampling frame to ensure sociodemographic representativeness for gender, age, race, and education.
Throughout the survey, participants were provided with the following definition of artificial intelligence (AI): "Artificial intelligence (AI) typically refers to the ability of computers and machines to perform tasks that normally require human intelligence. Al can perform these tasks or make these decisions without explicit human instructions."

## TOPLINE

1. How much do you agree or disagree with the statements below that people have made about technology in general?

...but they also think we are too dependent on technology and that it makes our lives change quickly


|  | Strongly <br> disagree | Disagree | Somewhat <br> disagree | Neither/ <br> nor | Somewhat <br> agree | Agree <br> agree |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| We often become too <br> dependent on technology. | $2.6 \%$ | $2.4 \%$ | $3.7 \%$ | $12.8 \%$ | $27.9 \%$ | $26.4 \%$ | $24.2 \%$ |
| Overall, technology has <br> made people's lives worse. | $14.0 \%$ | $21.0 \%$ | $16.0 \%$ | $22.9 \%$ | $14.2 \%$ | $6.9 \%$ | $5.1 \%$ |
| Technology makes our way <br> of life change too quickly. | $3.5 \%$ | $8.1 \%$ | $10.0 \%$ | $25.3 \%$ | $26.2 \%$ | $15.5 \%$ | $11.4 \%$ |
| In general, I am comfortable <br> using technology. | $1.6 \%$ | $2.1 \%$ | $5.5 \%$ | $13.7 \%$ | $22.2 \%$ | $33.6 \%$ | $21.2 \%$ |
| In general, I am very <br> interested in technology. | $3.1 \%$ | $4.0 \%$ | $8.0 \%$ | $21.6 \%$ | $24.6 \%$ | $24.5 \%$ | $14.3 \%$ |
| I am excited for new <br> gadgets and technology. | $4.8 \%$ | $6.4 \%$ | $9.3 \%$ | $26.7 \%$ | $23.0 \%$ | $18.8 \%$ | $11.1 \%$ |

2. How often do you use each of the following types of technologies?

|  | Never | Less than once a month | A few times a month | Once to a few times a week | Everyday | Not sure |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Smart personal assistants (such as Alexa, Siri, Cortana, and Google Assistant) | 45.5\% | 11.9\% | 10.4\% | 14.0\% | 15.3\% | 3.0\% |
| Traffic detection and travel optimization tools (such as Google Maps or Waze) | 17.6\% | 21.2\% | 25.1\% | 21.4\% | 11.3\% | 3.3\% |
| Automatic "tagging" or labeling of people in photos (such as on Facebook and Google Photos) | 50.3\% | 19.3\% | 11.7\% | 8.4\% | 5.5\% | 4.8\% |
| Product recommendations while shopping online (such as on Amazon) | 23.5\% | 24.7\% | 23.1\% | 17.0\% | 6.2 | 5.5\% |
| Entertainment recommendations or suggested playlists (such as on Netflix, Spotify, and Apple Music) | 29.1\% | 15.0\% | 16.5\% | 19.4\% | 16.1\% | 3.9\% |
| Smart home technologies (such as smart thermostats or lightbulbs) | 66.4\% | 5.4\% | 4.3\% | 5.8\% | 15.0\% | 3.2\% |
| Robotic home appliances (such as a robotic vacuum or lawnmower) | 76.8\% | 4.1\% | 4.3\% | 6.5\% | 4.5\% | 3.7\% |
| Virtual reality devices (such as Oculus or HTC Vive) | 79.7\% | 6.7\% | 2.8\% | 4.1\% | 2.6\% | 4.2\% |
| Wearable technology (such as Apple Watch or Fitbit) | 65.3\% | 5.0\% | 3.5\% | 5.6\% | 16.6\% | 4.0\% |
| Smart phones | 9.4\% | 1.7\% | 2.6\% | 5.7\% | 77.6\% | 3.0\% |

3. How much do you agree or disagree with the following statements that people have made about technology companies?

|  | Strongly disagree | Disagree | Somewhat disagree | Neither/ nor | Somewhat agree | Agree | Strongly agree |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Data collection for personalized preferences enables people to find products more efficiently than they could on their own. | 7.0\% | 9.2\% | 10.3\% | 32.0\% | 25.2\% | 12.3\% | 4.1\% |
| The more a tech company knows about me as a user, the more useful their products and services become. | 10.1\% | 12.7\% | 12.4\% | 31.8\% | 19.6\% | 9.4\% | 4.0\% |
| Tech companies give regular citizens enough control over how much of their personal data is gathered and used. | 22.1\% | 18.9\% | 18.0\% | 21.1\% | 11.5\% | 5.2\% | 3.1\% |
| Too much data about our online activity is used by companies without our knowledge | 1.2\% | 0.8\% | 1.8\% | 15.6\% | 17.3\% | 26.7\% | 36.6\% |
| Most tech companies know too much about average citizens. | 1.5\% | 1.7\% | 2.5\% | 17.2\% | 20.5\% | 26.2\% | 30.5\% |
| I would rather pay for services like Facebook or Gmail rather than have tech companies use and share my personal data. | 12.6\% | 12.2\% | 10.9\% | 31.0\% | 14.5\% | 10.9\% | 7.9\% |
| Tech companies using data for commercial purposes is necessary for them to offer services like email Facebook for free. | 10.8\% | 9.6\% | 9.1\% | 30.7\% | 22.6\% | 11.8\% | 5.3\% |

4. In general, how much attention do you pay to news stories about the following topics?

|  | None | Very little | Some | Quite a bit | A lot |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | $7.5 \%$ | $11.5 \%$ | $24.8 \%$ | $27.4 \%$ | $28.8 \%$ |
| National government and politics | $8.4 \%$ | $15.8 \%$ | $40.9 \%$ | $23.4 \%$ | $11.6 \%$ |
| Science and technology | $8.4 \%$ | $18.0 \%$ | $35.4 \%$ | $22.9 \%$ | $15.2 \%$ |
| Environmental issues | $10.9 \%$ | $19.8 \%$ | $38.0 \%$ | $20.0 \%$ | $11.3 \%$ |
| Political or ethical implications of emerging <br> technologies |  |  |  |  |  |

5. Thinking about news in general, do you think it has a liberal bias, a conservative bias, or is mostly neutral?


Two-thirds of Republicans think media has a liberal bias, while over half of Democrats think that media is neutral


| Liberal bias |  |
| :---: | :---: |
| Neutral |  |
| Conservative bias | ............. |

6. When you use social media platforms (such as Facebook or YouTube), how often do you come across news and information on each of the following news topics even though you were going online for a different purpose?

|  | Never | Rarely | Sometimes | Often | Always |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Current events, public issues, or politics | $16.2 \%$ | $10.2 \%$ | $27.8 \%$ | $27.3 \%$ | $18.4 \%$ |
| Recent developments in science or technology | $24.0 \%$ | $23.8 \%$ | $36.2 \%$ | $12.6 \%$ | $3.4 \%$ |
| Stories or posts related to artificial intelligence (AI) | $33.5 \%$ | $34.0 \%$ | $24.9 \%$ | $5.6 \%$ | $2.0 \%$ |

7. How informed would you say you are about AI?


| The science behind artificial intelligence (AI) | $29.7 \%$ | $29.3 \%$ | $28.9 \%$ | $8.5 \%$ | $3.6 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Concrete uses or applications of artificial <br> intelligence (AI) | $25.6 \%$ | $26.6 \%$ | $34.9 \%$ | $9.5 \%$ | $3.4 \%$ |
| Impacts of artificial intelligence (AI) on society | $23.4 \%$ | $27.5 \%$ | $36.0 \%$ | $8.9 \%$ | $4.2 \%$ |
| Regulatory or legal questions emerging from <br> artificial intelligence (AI) applications | $34.1 \%$ | $31.4 \%$ | $24.8 \%$ | $6.7 \%$ | $3.0 \%$ |
| What kinds of information companies collect <br> about ordinary citizens | $21.7 \%$ | $23.1 \%$ | $38.5 \%$ | $12.2 \%$ | $4.5 \%$ |

## 8. How much do you agree or disagree with the following statements about AI?



Al is morally acceptable.
Al is useful for society.
Overall, I support the use of Al.

Overall, I support research on AI.
As a society, we are prepared for the effects of Al applications.
There will be unintended consequences of AI applications.

| Strongly <br> disagree | Disagree | Somewhat <br> disagree | Neither/ <br> nor | Somewhat <br> agree | Agree | Strongly <br> agree |
| ---: | ---: | ---: | ---: | :---: | ---: | :---: |
| $5.3 \%$ | $5.9 \%$ | $8.7 \%$ | $41.9 \%$ | $18.6 \%$ | $14.1 \%$ | $5.6 \%$ |
| $5.2 \%$ | $5.4 \%$ | $7.4 \%$ | $32.0 \%$ | $26.7 \%$ | $17.4 \%$ | $5.9 \%$ |
| $6.0 \%$ | $6.9 \%$ | $8.8 \%$ | $33.2 \%$ | $24.1 \%$ | $14.2 \%$ | $6.7 \%$ |
| $5.3 \%$ | $5.7 \%$ | $6.1 \%$ | $29.7 \%$ | $24.6 \%$ | $19.5 \%$ | $9.2 \%$ |
|  |  |  |  |  |  |  |
| $17.0 \%$ | $17.1 \%$ | $18.2 \%$ | $27.4 \%$ | $11.2 \%$ | $6.3 \%$ | $2.7 \%$ |
|  |  |  |  |  |  |  |
| $2.3 \%$ | $1.9 \%$ | $2.8 \%$ | $24.0 \%$ | $23.4 \%$ | $22.4 \%$ | $23.1 \%$ |


| Overall, I support the use of AI. | Total | Income |  |  |  | Education |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Under 30k | $\begin{aligned} & 30 \mathrm{k}- \\ & 70 \mathrm{k} \end{aligned}$ | $\begin{aligned} & \text { 70k- } \\ & 100 \mathrm{k} \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Over } \\ \text { 100k+ } \end{gathered}$ | HS or less | Some college | 4-year college+ |
| Strongly to somewhat disagree | 21.8\% | 24.3\% | 24.1\% | 19.4\% | 15.0\% | 25.5\% | 22.2\% | 16.5\% |
| Neither/nor | 33.2\% | 37.5\% | 30.2\% | 32.2\% | 23.5\% | 39.8\% | 32.0\% | 25.5\% |
| Strongly to somewhat agree | 45.0\% | 38.2\% | 45.7\% | 48.4\% | 61.5\% | 34.7\% | 45.8\% | 58.0\% |


| Overall, I support the use of AI. | Total | Party ID |  |  |  |  | Race |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dem | LeanDem | Ind | LeanRep | Rep | Non-white | White |
| Strongly to somewhat disagree | 21.8\% | 15.9\% | 21.4\% | 24.2\% | 29.6\% | 27.4\% | 19.9\% | 22.9\% |
| Neither/nor | 33.2\% | 29.0\% | 25.9\% | 41.9\% | 30.8\% | 32.2\% | 38.4\% | 30.2\% |
| Strongly to somewhat agree | 45.0\% | 55.1\% | 52.7\% | 33.9\% | 39.7\% | 40.4\% | 41.7\% | 47.0\% |


| Unintended consequences of AI applications | Total | Income |  |  |  | Education |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \hline \text { Under } \\ 30 \mathrm{k} \end{gathered}$ | $\begin{aligned} & 30 \mathrm{k}- \\ & 70 \mathrm{k} \\ & \hline \end{aligned}$ | $\begin{aligned} & 70 \mathrm{k}- \\ & 100 \mathrm{k} \\ & \hline \end{aligned}$ | $\begin{gathered} \hline \text { Over } \\ 100 \mathrm{k}+ \end{gathered}$ | $\begin{aligned} & \text { HS or } \\ & \text { less } \end{aligned}$ | Some college | 4-year college+ |
| Strongly to somewhat disagree | 7.0\% | 8.4\% | 8.1\% | 6.6\% | 4.4\% | 10.1\% | 5.5\% | 4.6\% |
| Neither/nor | 24.0\% | 32.3\% | 21.9\% | 18.4\% | 13.4\% | 32.5\% | 23.2\% | 13.6\% |
| Strongly to somewhat agree | 69.0\% | 59.3\% | 70.0\% | 75.1\% | 82.2\% | 57.4\% | 71.3\% | 81.9\% |


| Unintended consequences of Al applications | Total | Party ID |  |  |  |  | Race |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dem | LeanDem | Ind | LeanRep | Rep | Non-white | White |
| Strongly to somewhat disagree | 7.0\% | 7.3\% | 2.9\% | 7.8\% | 7.3\% | 7.5\% | 8.9\% | 5.9\% |
| Neither/nor | 24.0\% | 23.8\% | 12.8\% | 30.9\% | 13.0\% | 21.9\% | 31.8\% | 19.5\% |
| Strongly to somewhat agree | 69.0\% | 68.9\% | 84.3\% | 61.3\% | 79.8\% | 70.6\% | 59.3\% | 74.6\% |

9-10. Perceptions of risks and benefits

Majority of Americans think there are both risks and benefits of Al

9. Overall, how risky do you think that AI will be for ...?

|  | Not at all <br> risky | Mostly not <br> risky | Somewhat <br> risky | Mostly <br> risky | Very <br> risky |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Democratic society | $7.3 \%$ | $16.6 \%$ | $43.2 \%$ | $15.2 \%$ | $17.6 \%$ |
| You personally | $12.3 \%$ | $25.5 \%$ | $39.3 \%$ | $11.6 \%$ | $11.3 \%$ |
| Most Americans | $6.7 \%$ | $19.4 \%$ | $44.4 \%$ | $15.3 \%$ | $14.1 \%$ |

10. Overall, how beneficial do you think that AI will be for ...?

|  | Not at all <br> beneficial | Mostly not <br> beneficial | Somewhat <br> beneficial | Mostly <br> beneficial | Very <br> beneficial |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Democratic society | $14.0 \%$ | $21.0 \%$ | $46.2 \%$ | $12.0 \%$ | $6.7 \%$ |
| You personally | $17.4 \%$ | $23.2 \%$ | $41.6 \%$ | $11.4 \%$ | $6.5 \%$ |
| Most Americans | $10.0 \%$ | $21.8 \%$ | $48.6 \%$ | $13.5 \%$ | $6.2 \%$ |


| Risks for democratic society | Total | Age Group |  |  |  | Education |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 18-25 | 26-35 | 36-64 | 65+ | HS or less | Some college | 4-year college+ |
| Not at all/ mostly not risky | 23.9\% | 26.0\% | 25.4\% | 22.9\% | 24.0\% | 26.6\% | 22.7\% | 21.8\% |
| Somewhat risky | 43.2\% | 43.1\% | 49.1\% | 41.1\% | 43.1\% | 40.3\% | 44.9\% | 45.4\% |
| Mostly/ very risky | 32.8\% | 30.9\% | 25.4\% | 36.0\% | 32.9\% | 33.1\% | 32.4\% | 32.8\% |


| Risks for democratic society | Total | Party ID |  |  |  |  | Knowledge about AI |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dem | LeanDem | Ind | LeanRep | Rep | Low | Med | High |
| Not at all/ mostly not risky | 23.9\% | 25.0\% | 20.2\% | 24.5\% | 17.7\% | 23.7\% | 26.7\% | 24.0\% | 19.4\% |
| Somewhat risky | 43.2\% | 46.9\% | 42.0\% | 39.9\% | 39.1\% | 42.9\% | 43.6\% | 41.9\% | 44.7\% |
| Mostly/ very risky | 32.8\% | 28.1\% | 37.9\% | 35.6\% | 43.1\% | 33.3\% | 29.7\% | 34.1\% | 36.0\% |


| Benefits for democratic society | Total | Age Group |  |  |  | Education |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 18-25 | 26-35 | 36-64 | 65+ | $\begin{gathered} \begin{array}{c} \text { HS or } \\ \text { less } \end{array} \\ \hline \end{gathered}$ | Some college | 4-year college+ |
| Not at all/ mostly not beneficial | 35.1\% | 30.5\% | 29.7\% | 37.4\% | 36.3\% | 36.4\% | 36.5\% | 31.6\% |
| Somewhat beneficial | 46.2\% | 44.2\% | 47.6\% | 45.3\% | 48.3\% | 45.7\% | 46.2\% | 47.1\% |
| Mostly/ very beneficial | 18.7\% | 25.3\% | 22.7\% | 17.3\% | 15.4\% | 17.9\% | 17.3\% | 21.3\% |


| Benefits for democratic society | Total | Party ID |  |  |  |  | Knowledge about AI |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dem | LeanDem | Ind | $\begin{gathered} \text { Lean- } \\ \text { Rep } \\ \hline \end{gathered}$ | Rep | Low | Med | High |
| Not at all/ mostly not beneficial | 35.1\% | 28.7\% | 29.9\% | 43.9\% | 39.7\% | 38.8\% | 38.6\% | 32.2\% | 33.6\% |
| Somewhat beneficial | 46.2\% | 48.6\% | 54.9\% | 42.3\% | 46.6\% | 43.2\% | 47.1\% | 45.1\% | 46.7\% |
| Mostly/ very beneficial | 18.7\% | 22.7\% | 15.2\% | 13.8\% | 13.8\% | 17.9\% | 14.4\% | 22.7\% | 19.6\% |

11. How aware are you on the following developments involving AI, if at all?

12. Below are some statements about AI. It is difficult to know the answers to all of these, but please tell us if you think each is true or false.

|  | Definitely <br> false | Likely <br> false | Likely <br> true | Definitely <br> true | Don't <br> know |
| :--- | :---: | :---: | :---: | :---: | :---: |
| AI research began in the early 2000s (False). | $11.5 \%$ | $16.1 \%$ | $31.7 \%$ | $8.7 \%$ | $31.9 \%$ |
| Programmers of AI know exactly how their <br> algorithms adapt to new information (False). | $12.1 \%$ | $26.6 \%$ | $26.7 \%$ | $9.4 \%$ | $25.2 \%$ |
| Self-driving cars are currently being road tested in <br> all 50 states (True). | $8.5 \%$ | $21.9 \%$ | $34.8 \%$ | $11.2 \%$ | $23.5 \%$ |
| The news you see on Facebook news feeds is <br> curated by AI (True). | $4.9 \%$ | $13.4 \%$ | $37.1 \%$ | $14.9 \%$ | $29.7 \%$ |
| Federal law prohibits financial institutions from <br> using Al in lending decisions (False). | $6.4 \%$ | $23.0 \%$ | $22.8 \%$ | $6.2 \%$ | $41.6 \%$ |
| President Trump signed an executive order to <br> increase research and development on AI <br> technology (True). | $6.9 \%$ | $15.6 \%$ | $27.5 \%$ | $7.9 \%$ | $42.2 \%$ |
| Tech companies use AI to combat online <br> misinformation in U.S. elections (True). | $6.8 \%$ | $16.9 \%$ | $37.5 \%$ | $9.9 \%$ | $28.9 \%$ |
| When Al is used to make hiring decisions it is <br> always free of bias (False). | $19.8 \%$ | $29.5 \%$ | $18.6 \%$ | $5.5 \%$ | $26.6 \%$ |
| Police use of AI can result in systematic targeting <br> of specific neighborhoods (True). | $3.1 \%$ | $8.7 \%$ | $43.4 \%$ | $19.9 \%$ | $25.0 \%$ |

13. How likely do you think it is that AI will...?


14. How likely do you think it is that Al will...?

|  | Not at all likely | Very unlikely | Unlikely | Somewhat likely | Likely | Very likely | Certain |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| strengthen the U.S. economy | 8.3\% | 7.1\% | 25.4\% | 34.6\% | 14.1\% | 7.4\% | 3.1\% |
| increase national security | 6.4\% | 5.4\% | 19.9\% | 34.8\% | 18.5\% | 10.9\% | 4.1\% |
| improve individuals' health | 6.9\% | 5.3\% | 18.5\% | 34.8\% | 19.7\% | 11.3\% | 3.5\% |
| reduce bias in human decisionmaking | 9.9\% | 10.3\% | 29.0\% | 27.6\% | 12.4\% | 7.1\% | 3.7\% |
| help fight terrorism threats | 6.7\% | 4.9\% | 15.2\% | 36.5\% | 20.7\% | 11.9\% | 4.3\% |
| worsen societal inequalities | 5.1\% | 4.9\% | 20.8\% | 29.5\% | 16.7\% | 14.5\% | 8.6\% |
| give some people too much power | 3.2\% | 2.2\% | 8.0\% | 21.9\% | 19.2\% | 23.8\% | 21.6\% |
| threaten personal liberties | 4.1\% | 3.5\% | 13.1\% | 29.3\% | 19.2\% | 17.9\% | 12.8\% |
| change what it means to be human | 10.2\% | 6.9\% | 19.7\% | 24.2\% | 15.8\% | 13.1\% | 10.1\% |
| displace workers by automating their jobs | 3.3\% | 2.0\% | 6.2\% | 23.1\% | 19.6\% | 24.1\% | 21.7\% |

14. How much do you trust each of the following groups to protect your data privacy?


Breakdowns: How much do you trust university scientists to protect your data privacy?


Technophiles are also more likely to trust university scientists than technology laggards do


Trust to keep protect data privacy -- University Scientists

Likewise, Democrats trust university scientists more than Republicans do


Trust to keep protect data privacy -- University Scientists

LSC

How much do you trust university scientists to protect your data privacy?

|  |  | Age Group |  |  |  |  | Technology use |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Laggards | Technophiles |  |  |  |
| Do not/mostly do not trust | $40.9 \%$ |  | $30.1 \%$ | $26-35$ | $36-64$ | $65+$ |  |  | $43.1 \%$ |
|  | $51.8 \%$ |  |  | $49.6 \%$ | $30.2 \%$ |  |  |  |  |
| Somewhat trust | $36.8 \%$ |  | $39.4 \%$ | $42.3 \%$ | $34.4 \%$ | $36.0 \%$ |  | $35.4 \%$ | $38.5 \%$ |
| Mostly/very much trust | $22.4 \%$ |  | $30.5 \%$ | $29.3 \%$ | $22.5 \%$ | $12.2 \%$ |  | $15.0 \%$ | $31.3 \%$ |


|  | Total | Party ID |  |  |  |  | Knowledge about AI |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dem | LeanDem | Ind | LeanRep | Rep | Low | Med | High |
| Do not/mostly do not trust | 40.9\% | 24.6\% | 20.9\% | 50.8\% | 67.3\% | 55.0\% | 45.6\% | 35.5\% | 41.5\% |
| Somewhat trust | 36.8\% | 42.5\% | 44.7\% | 34.7\% | 24.6\% | 31.1\% | 38.7\% | 37.8\% | 32.2\% |
| Mostly/very much trust | 22.4\% | 33.0\% | 34.4\% | 14.5\% | 8.1\% | 13.9\% | 15.7\% | 26.8\% | 26.4\% |

Breakdowns: How much do you trust the White House to protect your data privacy?

Republicans trust the White House to protect their data privacy more than the Democrats do


Trust to keep protect data privacy -- The White House

How much do you trust the White House to protect your data privacy?

|  | Total | Age Group |  |  |  | Technology use |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 18-25 | 26-35 | 36-64 | $65+$ | Laggards | Technophiles |
| Do not/mostly do not trust | 59.8\% | 57.5\% | 52.1\% | 62.6\% | 61.4\% | 64.0\% | 54.7\% |
| Somewhat trust | 24.2\% | 26.1\% | 29.3\% | 22.7\% | 22.5\% | 23.0\% | 25.8\% |
| Mostly/very much trust | 15.9\% | 16.4\% | 18.6\% | 14.8\% | 16.1\% | 13.0\% | 19.5\% |


|  | Total | Party ID |  |  |  |  | Knowledge about AI |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Dem | LeanDem | Ind | LeanRep | Rep | Low | Med | High |
| Do not/mostly do not trust | 59.8\% | 74.3\% | 85.2\% | 68.2\% | 44.0\% | 34.3\% | 57.9\% | 57.8\% | 66.0\% |
| Somewhat trust | 24.2\% | 15.9\% | 12.8\% | 23.5\% | 29.8\% | 36.3\% | 27.4\% | 22.9\% | 21.2\% |
| Mostly/very much trust | 15.9\% | 9.8\% | 2.1\% | 8.3\% | 26.2\% | 29.4\% | 14.7\% | 19.3\% | 12.8\% |

Breakdowns: How much do you trust Facebook to protect your data privacy?

Technophiles trust Facebook to protect data privacy more than laggards


How much do you trust Facebook to protect your data privacy?

|  | Total | Age Group |  |  |  |  | Technology use |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 18-25 | 26-35 | 36-64 | 65+ |  | Laggards | Technophiles |  |
| Do not/mostly do not trust | 70.8\% | 64.2\% | 58.3\% | 73.2\% | 79.1\% |  | 78.2\% |  | 61.7\% |
| Somewhat trust | 20.4\% | 23.1\% | 27.3\% | 19.2\% | 15.8\% |  | 18.0\% |  | 23.2\% |
| Mostly/very much trust | 8.8\% | 12.7\% | 14.3\% | 7.6\% | 5.1\% |  | 3.8\% |  | 15.1\% |
|  |  |  |  | Party ID |  |  | Knowle | edge ab | out AI |
|  | Total | Dem | LeanDem | Ind | LeanRep | Rep | Low | Med | High |
| Do not/mostly do not trust | 70.8\% | 67.0\% | 84.8\% | 71.0\% | 83.9\% | 70.1\% | 68.2\% | 66.1\% | 82.2\% |
| Somewhat trust | 20.4\% | 23.1\% | 11.1\% | 22.1\% | 10.5\% | 20.3\% | 23.0\% | 22.6\% | 12.8\% |
| Mostly/very much trust | 8.8\% | 9.8\% | 4.1\% | 6.9\% | 5.6\% | 9.6\% | 8.8\% | 11.3\% | 5.0\% |

15. How much do you trust each of the following groups to keep society's best interest in mind during the development of AI technology?


|  | Do not trust | Mostly do not trust | Somewhat trust | Mostly trust | Trust very much |
| :---: | :---: | :---: | :---: | :---: | :---: |
| University scientists | 19.1\% | 18.6\% | 39.1\% | 17.3\% | 5.9\% |
| Industry scientists | 19.2\% | 23.2\% | 39.8\% | 13.2\% | 4.6\% |
| Digital rights groups, such as the Electronic Frontier Foundation (EFF) | 19.6\% | 25.4\% | 37.6\% | 12.8\% | 4.5\% |
| Law enforcement agencies, such as the FBI | 25.7\% | 20.2\% | 35.0\% | 14.7\% | 4.3\% |
| The U.S. court system | 22.5\% | 23.8\% | 36.0\% | 14.0\% | 3.6\% |
| Regulatory agencies that oversee AI applications, such as the Department of Transportation (DOT) or the Department of Defense (DOD) | 21.9\% | 25.5\% | 39.0\% | 11.0\% | 2.6\% |
| The White House | 38.9\% | 19.1\% | 25.7\% | 10.9\% | 5.5\% |
| Congress | 36.2\% | 29.2\% | 26.1\% | 6.1\% | 2.4\% |
| Amazon | 29.1\% | 24.8\% | 31.2\% | 9.8\% | 5.1\% |
| Apple | 29.2\% | 25.7\% | 30.7\% | 9.8\% | 4.6\% |
| Google | 29.8\% | 25.1\% | 31.1\% | 9.6\% | 4.4\% |
| Facebook | 43.8\% | 26.7\% | 20.0\% | 6.6\% | 2.9\% |

Breakdowns: How much do you trust university scientists to keep society's best interest in mind during the development of Al technology?

|  | Total | Age Group |  |  |  |  | Technology use |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 18-25 | 26-35 | 36-64 | 65+ |  | Laggards | Technophiles |  |
| Do not/mostly do not trust | 37.7\% | 31.3\% | 28.3\% | 39.4\% | - 45.2\% |  | 45.5\% | 28.2\% |  |
| Somewhat trust | 39.1\% | 37.7\% | 42.6\% | - 37.3\% | - 40.8\% |  | 37.6\% | 40.9\% |  |
| Mostly/very much trust | 23.2\% | 31.0\% | 29.1\% | 23.3\% | - 14.0\% |  | 16.8\% | 30.9\% |  |
|  |  | Party ID |  |  |  |  | Knowledge about AI |  |  |
|  | Total | Dem | LeanDem | Ind L | LeanRep | Rep | Low | Med | High |
| Do not/mostly do not trust | 37.7\% | 20.6\% | 17.7\% | 49.8\% 6 | 62.3\% | 52.2\% | 40.6\% | 34.3\% | 38.3\% |
| Somewhat trust | 39.1\% | 44.6\% | 39.1\% | 39.1\% 2 | 26.7\% | 35.4\% | 41.4\% | 41.0\% | 32.6\% |
| Mostly/very much trust | 23.2\% | 34.8\% | 43.2\% | 11.1\% 1 | 10.9\% | 12.4\% | 18.0\% | 24.7\% | 29.1\% |

Breakdowns: How much do you trust the White House to keep society's best interest in mind during the development of AI technology?


Breakdowns: How much do you trust Facebook to keep society's best interest in mind during the development of Al technology?

16. How concerned are you about the following potential uses of AI?

|  | Not at all concerned | Slight concerned | Moderately concerned | Concerned | Very concerned |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Foreign countries using Al-based algorithms to spread false information about candidates running for office. | 9.4\% | 11.0\% | 23.8\% | 21.5\% | 34.3\% |
| Al-based algorithms being used to post misleading information on social media sites such as Facebook or Twitter. | 8.4\% | 12.6\% | 24.0\% | 22.3\% | 32.7\% |
| Businesses using AI to replace people in manufacturing and service jobs. | 9.8\% | 12.5\% | 24.7\% | 21.8\% | 31.3\% |
| Law enforcement using Al to classify citizens as potential criminals. | 11.2\% | 14.7\% | 23.7\% | 20.8\% | 29.6\% |
| Insurance providers using Al to predict if a person will develop depression in the future. | 12.9\% | 14.7\% | 24.2\% | 20.2\% | 28.0\% |
| The government collecting data about all Americans to assess who might be a potential terrorist threat. | 15.7\% | 15.8\% | 26.5\% | 18.8\% | 23.3\% |
| Employers using Al to screen job candidates. | 13.0\% | 17.8\% | 27.8\% | 21.1\% | 20.3\% |
| Makers of smart personal assistants sharing audio recordings of their customers with law enforcement to help with criminal investigations. | 16.0\% | 17.4\% | 25.9\% | 18.4\% | 22.3\% |
| DNA testing companies sharing their customers' genetic data with law enforcement agencies in order to help solve crimes. | 20.8\% | 15.3\% | 24.0\% | 17.8\% | 22.2\% |
| Computer scientists using Al to detect sexual orientation from photos. | 24.4\% | 16.6\% | 24.3\% | 16.3\% | 18.4\% |

## 17. How much do you agree with the following statements? (Deference to science)



Scientists know best what is good for the public.
Scientists should be able to conduct their research without consulting the public.
Scientists should do what they think is best, even if they have to persuade people that it is right.
Science is the best way that society has for producing reliable knowledge.

Science is the best way to understand the world.

| Strongly <br> disagree | Disagree | Somewhat <br> disagree | Neither/ <br> nor | Somewhat <br> agree | Agree | Strongly <br> agree |
| ---: | ---: | ---: | :---: | :---: | :---: | :---: |
| $17.7 \%$ | $14.4 \%$ | $15.8 \%$ | $29.9 \%$ | $11.9 \%$ | $6.5 \%$ | $3.9 \%$ |
|  |  |  |  |  |  |  |
| $14.9 \%$ | $12.6 \%$ | $18.3 \%$ | $26.5 \%$ | $15.3 \%$ | $8.0 \%$ | $4.6 \%$ |

The public should have a say in how we apply scientific research and technology in society.

| $5.6 \%$ | $5.0 \%$ | $8.3 \%$ | $26.0 \%$ | $22.2 \%$ | $19.3 \%$ | $13.5 \%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5.5 \%$ | $5.9 \%$ | $7.4 \%$ | $26.4 \%$ | $23.2 \%$ | $17.6 \%$ | $13.9 \%$ |

2.2\%
2.4\%
5.8\%
24.9\%
26.0\%
21.4\%
17.2\%

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[^0]:    ${ }^{1}$ Technological devices include smart personal assistants, traffic detection tools, automatic tagging of people in photos, product recommendations when shopping online, entertainment activities, smart home technologies, virtual reality (VR) devices, wearable technology, or smart phones.

