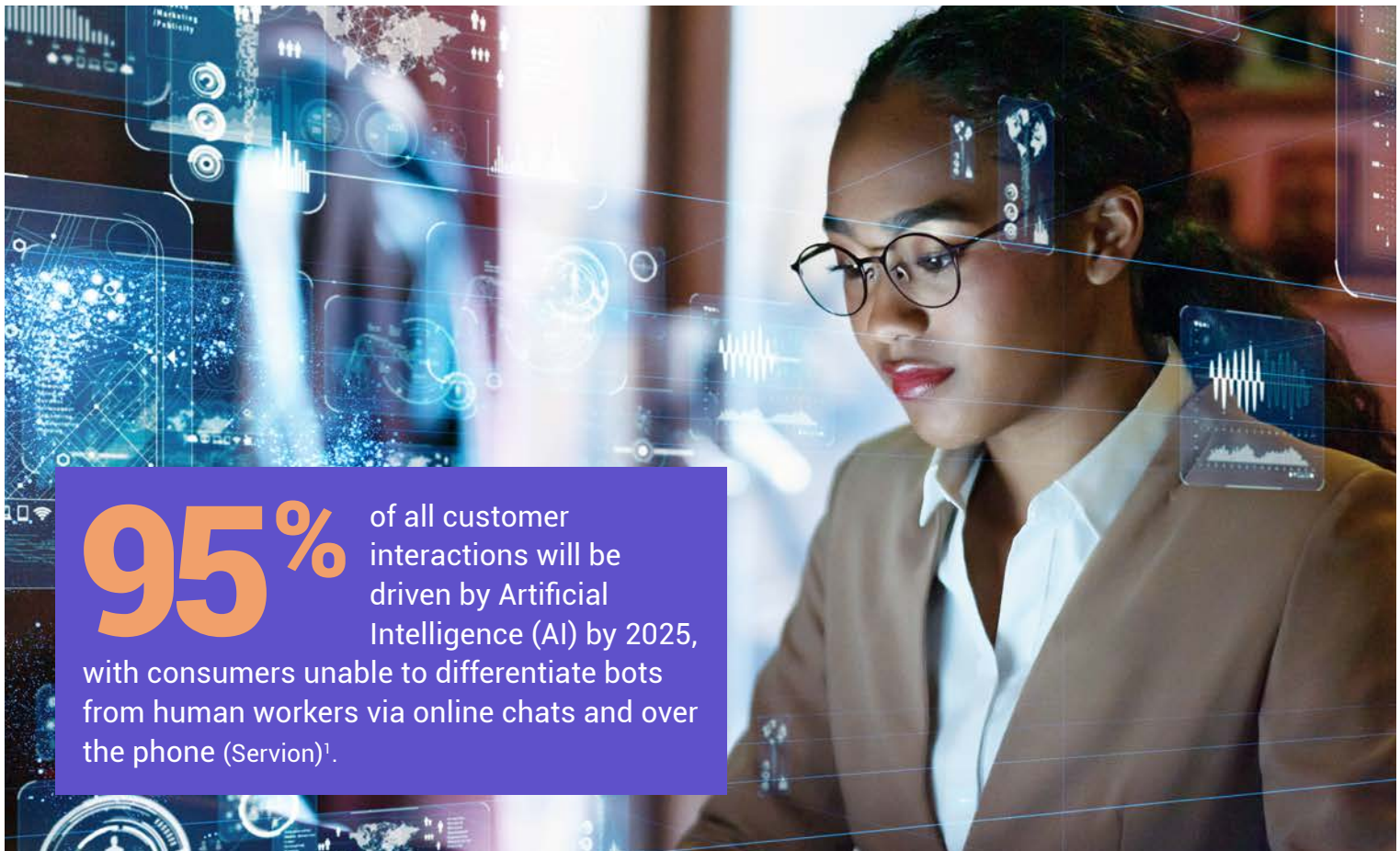# IS THERE PLACE FOR WOMEN IN THE WORLD OF AI?

"Alexa, play my favorite playlist."

"Siri, how long will it take me to reach the office?"

"Google, get me a cab."

These are just some of the more common phrases we hear all around us these days. And this is just the beginning.

95% of all customer interactions will be driven by Artificial Intelligence (AI) by 2025, with consumers unable to differentiate bots from human workers via online chats and over the phone (Servion)[1].

Artificial Intelligence and Machine Learning are the technologies that create intelligent/smart features like a phone assistant, facial recognition, driverless cars, etc. Scientists program a machine to match every single permutation and combination of answers to scenarios and questions.

For example, when one talks to a smart machine like a speech assistant or robot, it's almost as if it can 'think on its own.'

While all these speech assistants and AI robots are predominantly female, what is scary is the extremely small percentage of female AI scientists who created them.

Women hold **56%** of university degrees overall but just **36%** of STEM degrees and make up **25%** of the STEM workforce[2].

The World Economic Forum's report on Assessing Gender Gaps in Artificial Intelligence says that only **22%** of AI professionals globally are female, compared to **78%** who are male[3].

Startling? Hold on. What's worse, automation of jobs will lead to more women losing their jobs than men. The reason? Across the globe, only a handful of women in the workforce hold top positions in their jobs; the ones insulated from automation.

Back-office jobs, traditionally held by a relatively large percentage of women, will be replaced by machines in time.

Is there a way to stop this from happening? Probably not. We are headed into an automated world sooner than later. But there are ways in which women can either join this race for technology or compete with the gender gap and help narrow it down.

THE HISTORICAL GENDER BIAS

Women are more often associated with being a nurse, education administrator or human resources manager over male-dominated roles such as web developers, chemists and engineers.

If AI is the future, it has to first and foremost be all-inclusive and gender-neutral. Let's be clear here; it's not the technology that is biased, but the people and data collection. These biases are then, unknowingly, transferred to the code being written.

Women are more often associated with being a nurse, education administrator or human resources manager over male-dominated roles such as web developers, chemists and engineers. It is this inherent logic that is applied to technology. Try a simple Google search for the top AI scientists. It brings up a woman's name only after the third scroll.

One way to avoid this gender bias from creeping into technology is to do away with homogeneous teams and make them diverse. If a team constitutes both male and female members equally, they will come with a range of views and opinions, which would allow the team to flag off issues in a product that could otherwise go on to have substantial social consequences.

Take the example of voice-activated technology in cars that allows you to switch 'seamlessly' between your music, maps and call log. Other than the most sophisticated of technologies, these systems seem tone-deaf when a woman or foreign national is speaking to them[4]. The solution to this problem lies with a multi-racial and inclusive team.

That's not all. Even the startup phenomena hasn't been able to escape this gender bias. In 2017, female founders got only 2% of all Venture Capital funding[5].
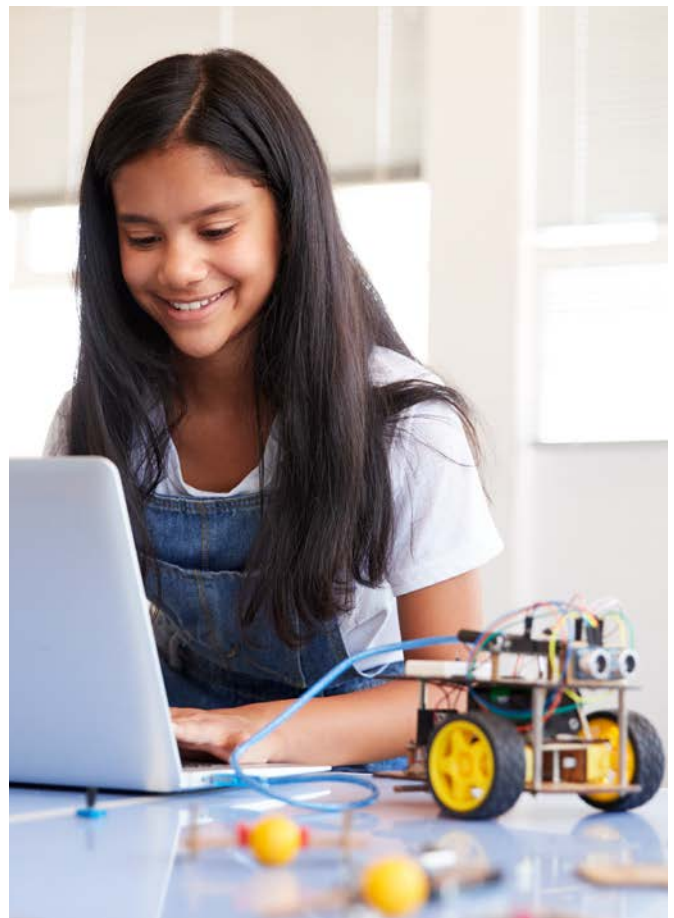
SKILLING

A strong emphasis on STEM education for young girls could change the way society sees and values it. Knowing all about the application of this STEM education in their future right from the beginning could result in more of them choosing this line. Creating a space that's safe from judgment, racial and sexual discrimination, where the only focus is learning, could help these budding geniuses shed their inhibitions, insecurities and focus on learning to innovate instead.
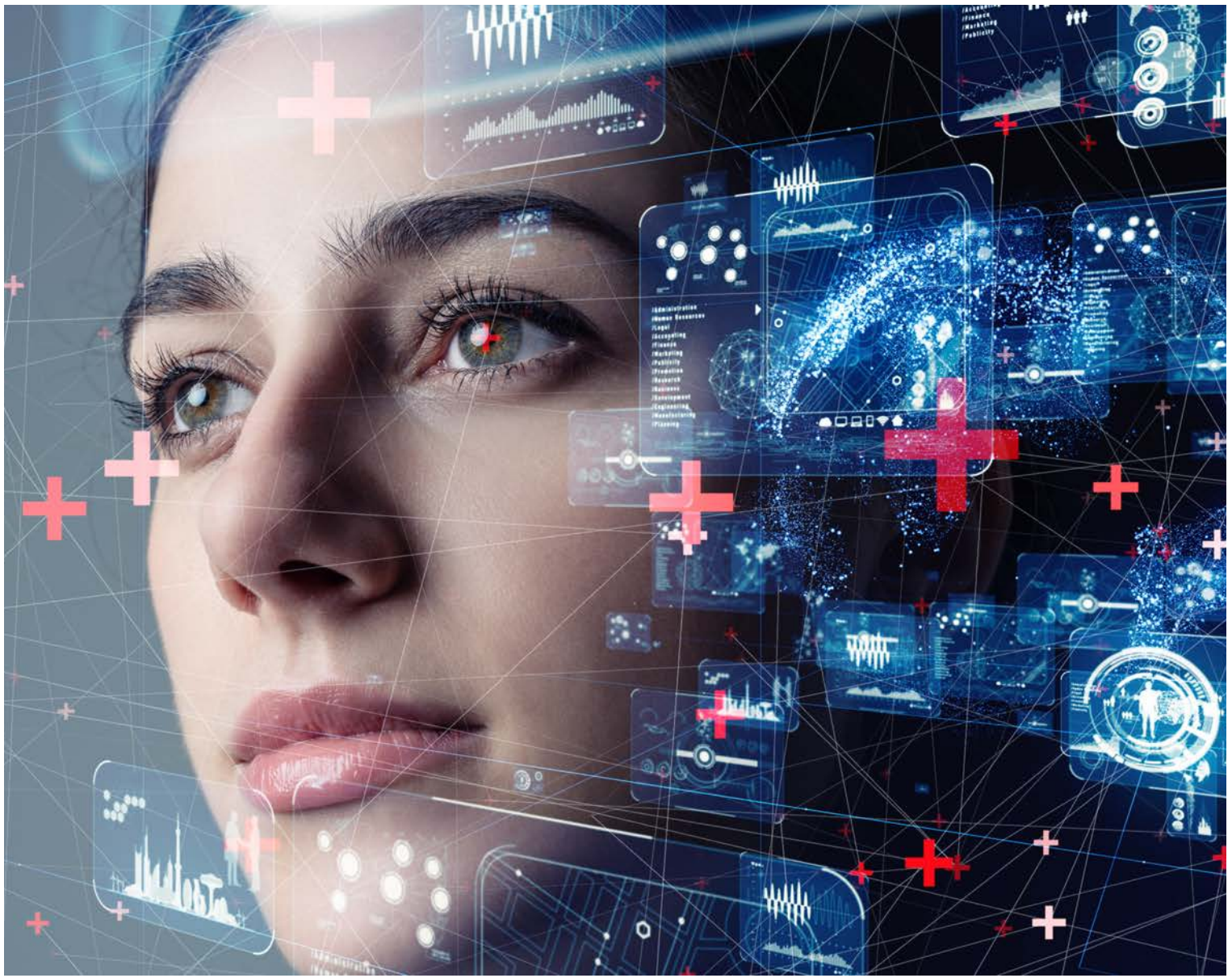
RESKILLING

AI is on its way to displace rote-based and assistance-based tasks. The new technology will, in turn, create jobs, but ones that are more technical in nature as compared to the older ones, like algorithm writing or data modeling.

Women who want to retain their jobs will have to adapt and learn the new skills required for these technical jobs if they want to be relevant and employed in the new scenario.

But there's some light at the end of this tunnel. It's not completely a man's world out there. There are quite a few advancements in AI that are being driven by women. Harley Davidson, the iconic bike every guy dreams of getting himself, is going to bring out internet-connected motorcycles in the future. **Victoria Stasiewicz**, Global Information Systems – Manager Information Management, Harley-Davidson, USA is the brains behind integrating this cutting-edge technology into their motorcycles.[1]

Kyoka Nakagawa, Chief Engineer, Value Creation Department, Digital Transformation Division, Digital Solution Center, Honda R&D Co., Ltd., Japan feels, "When AI functions well at work, business people seem to create more ideas to do better work. It may be because AI helps unburden some of their workload." She heads Honda's R&D efforts and has driven the team that uses advanced IBM Analytics tools to help them understand a variety of patterns like driver behavior, what changes can provide a more personalized experience, and what will contribute towards increasing reliability of the cars.[2]

It's not just the entrepreneurs and scientists who are making a mark for themselves. A renowned academic in computer vision and an Assistant Professor at Stanford, **Fei-Fei Li,** Chief Scientist of Artificial Intelligence & Machine Learning, Google Cloud is on a mission of "democratizing AI," meaning equal access to all on the information and advancements being made in the field. While Latanya Sweeney, Professor of Government and Technology, Harvard University tackles challenges of security, privacy, and bias in personal data and machine learning algorithms. For instance, she has pointed out how people in zip codes with a high Asian population are charged nearly double for SAT test prep services, irrespective of their incomes.[3]

The vision of a more diverse and gender agnostic AI industry only gets stronger with success stories like theirs, coming together to make the world better, one brilliant mind at a time.

Data Sources

1   https://www.ibm.com/watson/women-leaders-in-ai/victoria-stasiewicz
2   https://www.ibm.com/watson/women-leaders-in-ai/kyoka-nakagawa
3   https://www.forbes.com/sites/mariyayao/2017/05/18/meet-20-incredible-women-advancing-a-i-research/#69f0e08326f9

BECOME AN AI PRO

It doesn't matter if one's core competency isn't AI. If a woman who is in a Business Development role wants to learn to code, her employer should invest in her education. Even from a self-serving perspective organizations should encourage their employees to broaden their expertise.

The training will ultimately pay for itself as the company will save time and money in hiring new talent. And the employee will be able to apply the new learning for the company's benefit.

AI has so many aspects to it like Machine Learning, NLP, etc. Knowledge about the various categories of AI, as well as further skill enhancement of one's chosen vertical, will likely gear up women to meet changing workplace demands.

One way to motivate women to enhance their skills is to make it a benchmark for promotions and incentives, and in turn, slowly push them to the top.

FAIR RECRUITING

AI can completely change the way we recruit. Leaving hiring decisions to unbiased algorithms (program instructions that define the way a choice is made on receiving specific inputs) will significantly improve women's ratings when being considered for leadership roles.

Athena™, an online structured interview by Kingsley Gate Partners, is one such example of fair hiring. The interview is completed by both the client and the candidate to extinguish any potential interviewer bias. The only focus here is to help clients hire the best talent for any position, minus any gender barriers.

AI is not just a woman's problem, but a problem for every executive who does not want to embrace it. The pace of progress in AI requires executives to develop new skills and capabilities. Training and retraining will be needed to keep up with AI tech advancements. Both genders will need to adapt.

The firm also practices what they propose. They have some of the most accomplished women partners, taking technology in the palm of their hand, and using it towards the greater good of their valuable clients.

Be it the field of AI or a new technology waiting to hit us right around the corner, for technology to be all-inclusive and gender-neutral, it is the people working on it and with it who need to change their views.

Arushi Bhattacharya, Vice President and Lauren Fried, Research Associate with Kingsley Gate Partners, contributed to this whitepaper.

① EY   ② BCG   ③ WORLD ECONOMIC FORUM   ④ CATALYST   ⑤ FORTUNE   Forbes