

# Humanizing Customer Support with AI: Meet AVA

*#FlipTheScript*

Rachael Rekart

Director, Machine Assistance



A man with a beard and safety glasses is working in a workshop. He is wearing a dark blue shirt and a black watch with a yellow strap. He is sitting at a workbench, looking at a laptop screen. His hands are on the keyboard. The background is a workshop with various tools and equipment. The lighting is warm and focused on the man and his work.

Autodesk gives you the  
power to make anything.



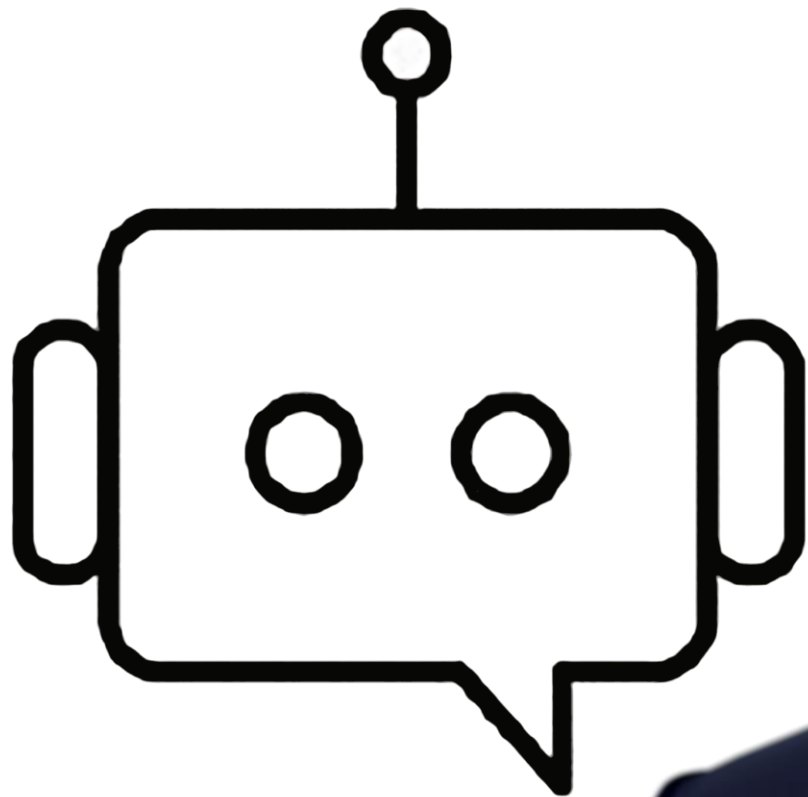
“Why is AVA female?”

“Why is AVA human?”

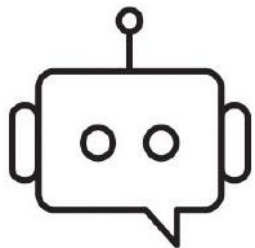
“Is this the future?”

“Does this set the right  
expectations?”





2016 (pilot)



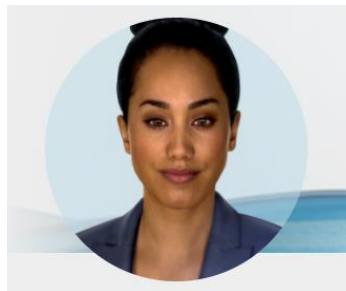
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**Bloomberg**

## AUTODESK'S PUSH INTO VIRTUAL ASSISTANTS

Opinion Artificial intelligence

## The digital future is female – but not in a good way

Gorgeous, subservient fembots are on the march

PILITA CLARK

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Ava is Autodesk's 'digital human' assistant, and she has sisters on the way

Pilita Clark JUNE 17, 2018



Last week I got a glimpse of the [very near future](#) that I did not like at all.

*“Ms Rekart had heard all the arguments about servile female bots perpetuating dodgy stereotypes in an industry where women are already marginalized . . . Yet for her, the new breed of artificially intelligent women such as AVA **embody female empowerment.***

*‘This is the next new revolution in technology,’ Rekart said. ‘They can think faster than us and learn faster than us. **Why should they be male?’**”*





I'm fine.

AI

# How Autodesk's assistant Ava attempts to avoid uncanny valley

KHARI JOHNSON @KHARIJOHNSON MAY 18, 2018 9:51 AM

*“ I honestly think this is really about **being transparent**, it's the only way to do this. The uncanny valley is all about feeling tricked and uneasy because it almost looks too real. Being transparent with your customers that **'Hey, I'm not real, no matter how real I look'** — that's the way that we've decided to approach it. ”*



# Digital Assistants Start To Get More Human

The coming chatbots will be smarter and more useful. But they will still have plenty of limits.



AVA, a customer-service chatbot for Autodesk, has rudimentary emotional intelligence.

BY TED GREENWALD

SHE'S SMART, a master of high-end design software. She's kind, ready to help at any time of day or night.

She's the new AVA—an acronym for automated virtual assistant—a next-generation digital assistant created by Autodesk Inc. to help its customers with its software. She's scheduled to replace the company's current text-only chat-

and say, "I'm sorry, let me see if I can help," says Rachael Au-Rekatt, who manages Autodesk's digital support channels.

Chatbots lately have become ubiquitous in the form of automated helpers on messaging services and social networks, voices issuing from smart speakers, and text-input boxes on business websites. But for all their high-tech un-

derstanding, current chatbots can be maddeningly unhelpful and unengaging. They tend to trip over all but simple state- and requests, and conversations

tional IQ. "Our view is that these machines are more helpful if they can engage with us and respond to us."

AVA, whose ability to understand language is provided by Watson Assistant technology from International Business Machines Corp., looks almost realistic enough to pass as human, though her voice doesn't quite synchronize with her animated mouth. She delivers news that your software subscription can include more products at no additional cost with a hint of a smile, word that you'll need to buy a new license with a slightly pained look, and instructions such as "Now, let's try again" with a schoolmarm's stern demeanor.

## Steep challenge

The history of chatbots is rife with inept digital helpers, but that began to change with the 2014 debut of Alexa, resident in Amazon.com Inc.'s Echo speaker. Alexa set a new standard in voice recognition with her ability to distinguish commands spoken across rooms and amid noise.

Like virtually all current bots, though, Alexa has limitations around grasping what words mean. Her "skills"—custom programs that give her knowledge of a particular domain—cluster around common transactions such as playing music or buying tickets, where a limited number of simple requests generally will suffice.

Programs designed to relieve the load on customer-service desks face a steeper challenge. Callers don't necessarily know what the bot can and can't do or what commands it recognizes. So these systems generally need to have deeper knowledge within their area of expertise. Indeed, customer-service bots may be first to deliver something approaching real conversation, according to some people in the field.

"You'll have richer dialogues with enterprise bots than the thing in your house because there's a wider range of questions within a narrow scope," says Tom Hebner, director of the cognitive innovation

Take Eva, a voice-and-text bot built by Nuance for USAA. It helps USAA's membership perform simple tasks like changing the PIN on a credit or debit card on the web or through an app. But it also can see around some of the corners such interactions entail. For instance, it can look into accounts to find out whether customers have more than one card and, if so, prompt them to tell it which one they need help with.

Launched in 2012 and continually updated, Eva handles around 70% of questions it receives without passing them along to a human agent, says Chris Cox, the company's chief digital officer. When the bot escalates a call to a human agent, it's able to send it to the right department roughly 90% of the time, he says.

Of course, Eva knows about USAA's services. Ask it about buying a car, and it comes up short. That narrow focus is by design. Current language-understanding technology can't yet cope with the full range of things people might ask for. Coaxing a computer to converse meaningfully as converses builds and shifts is extraordinarily difficult, says Nuance's Mr. Hebner. "It's harder to do image recognition, speed of recognition, self-driving, all much harder than all the amazing things." So the solution is to confine capabilities for interaction to narrow, tightly defined shortcuts by anticipating what users will ask, beating them to the punch by offering suggestions, and reducing the need for "yes" or "no" answers.

Harman International's car-dash-board assistant tries to predict drivers' needs before they ask, suggesting a place to stop for coffee, for instance. And Autodesk's new AVA not only looks and sounds fairly human, but also will be able to detect and react to users' emotional state, according to her developers.

"We're going to spend more time interacting with chatbots," says Tom Hebner, director of the cognitive innovation

driver. "Watson will soon be able to understand the driver's preferences and ask what kind of food the driver has in mind," says Sushant Sushant.

A long emotional journey. If bots are to be refined to simple creatures for now, they must help if they help us feel, so the confusion or recognition who assistance isn't time to call. That's why Ava's emotions

Chatbot better than us

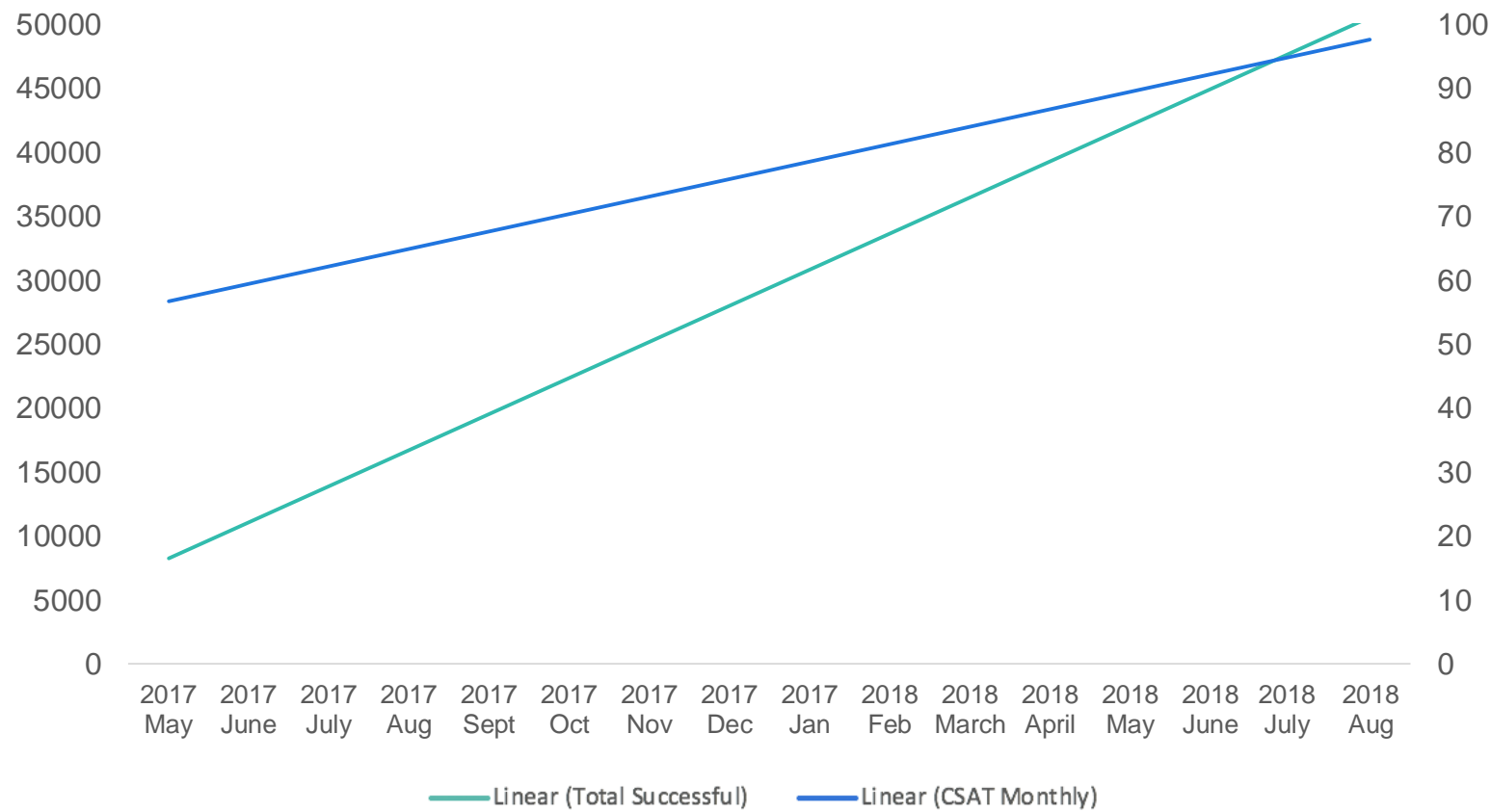
# THE WALL STREET JOURNAL.

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# Successful Conversations and Correlating CSAT (Trend)









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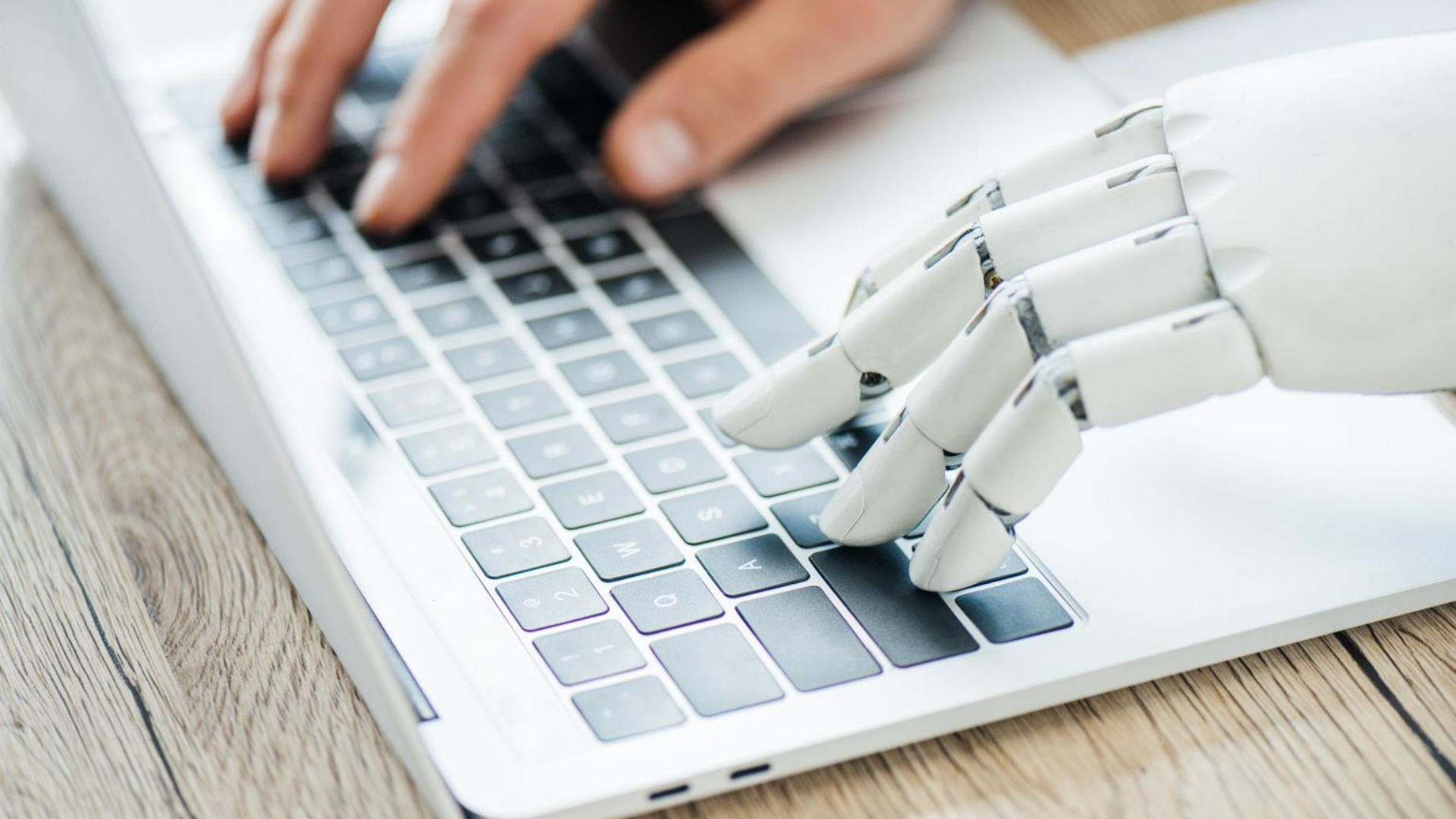
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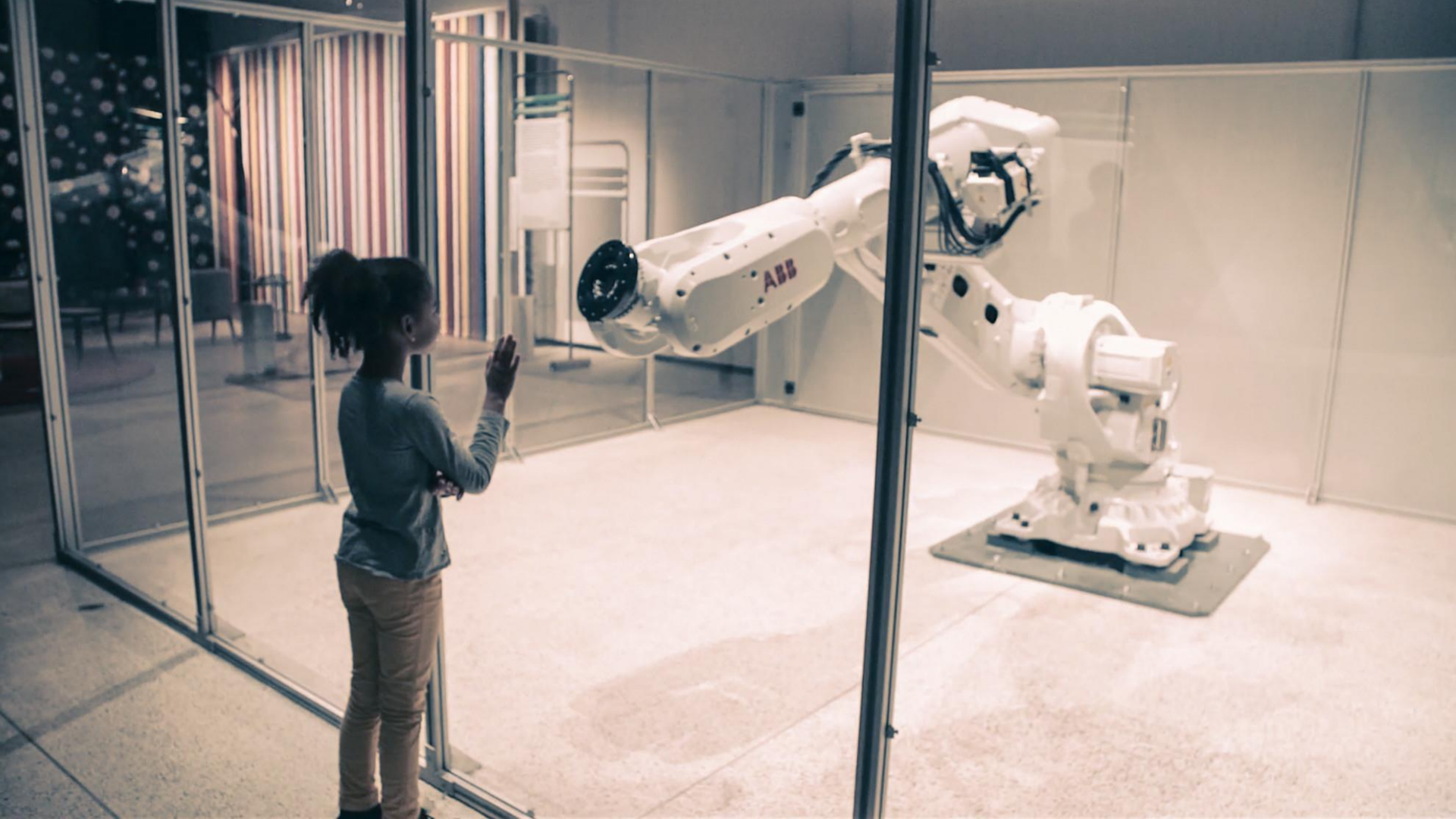
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