

Forbes / Tech / #NewTech

JAN 15, 2018 @ 06:27 AM 7,134

Artificial Intelligence Empowers Designers In IBM, Tommy Hilfiger And FIT Collaboration



Rachel Arthur, CONTRIBUTOR

I write about the intersection of fashion, business and technology. [FULL BIO](#) ▾

Opinions expressed by Forbes Contributors are their own.



FIT

A design by FIT student Grace McCarty for Tommy Hilfiger's Reimagine Retail project with IBM

Young fashion shoppers today are demanding personalization more than ever. According to an IBM study, 52% of female Generation Z would like to see tools that allow them to customize products for themselves.

This coincides with an ever-increasing expectation for speed in delivery of product. While several fast fashion retailers can get product to shelves in weeks, the majority of clothing items take anywhere from six to 12 months of development.

Technology is impacting throughout the supply chain to shift this forward, including in the creative process itself. Artificial intelligence (AI) for instance – incorporating computer vision, natural language understanding and deep learning – is being used

One of the big conversations around the use of AI in design, is whether it spells the death of creativity. If AI is used to shape exactly what new collections look like, is there even need for a designer in the first place? Both Ferraro and Laughlin believe this project demonstrates how it can be used as a means of augmenting human processes, rather than replacing them.

“AI can assist design teams by enhancing and reducing overall lead times, and expand their creative discovery by analyzing and remembering insights from thousands of images and videos using computer vision. These designers can also more easily find how they can integrate trending colors, key patterns, and styles,” Laughlin explains. It’s about reducing a time-consuming, resource intensive, manual process – or blowing up that research element by providing access to much wider sources than ever before, he commented.

“It is the critical difference between systems that enhance and scale human expertise, rather than those that attempt to replicate all of human intelligence. The AI inspired us and breathed new life into the design process,” Ferraro adds.

IBM previously worked with Australian designer Jason Grech on the [Cognitive Couture collection](#) for Melbourne Fashion Week. This similarly analyzed thousands of runway fashion images as well as social media content to help inform the design process in a data-driven manner.

Laughlin emphasizes that making trend prediction more accessible and getting products to market faster means fewer lost sales. “For consumers, when a desired item is not immediately available in store or online, the sale will not occur,” he explains.

“[Fashion companies’] slow-moving process hampers a brand’s ability to be in sync with today’s rapidly evolving consumers’ expectations, product trends, and external market forces... In the future of fashion with AI, designers could get insights from internal and external data sources so they can make their designs more informed and relevant. It also may give them the ability to design elements that will customize and personalize looks for certain markets or consumers.”

Samples of three of the six designs from FIT will be showcased at NRF’s Big Show in New York this week.

Rachel Arthur is Chief Intelligence Officer of TheCurrent, a global innovation firm at the intersection of technology, fashion and retail, and the editor of its [TheCurrent Daily](#) news site.



“So, a key impact [of the project was] new inspiration. Another important impact for the consumer is opportunities to customize and personalize the clothing, without losing the style of what they love about Tommy Hilfiger,” he adds. The cognitive print generator tools and personality insights analysis provided some cool opportunities to give consumers that self-expression. In addition to exploring how AI might impact decision making in fashion design, we also explored how tools such as social media listening and voice recognition can create a more personalized shopping experience built around an interactive ‘smart’ supply chain strategy that optimizes waste and minimizes environmental impact.”

The resulting 3D digital designs were presented to Tommy Hilfiger and IBM executives, who chose a plaid tech jacket by FIT senior Grace McCarty. When designing her look, McCarty said she drew inspiration from the AI produced insights on Tommy’s brands’ style and silhouettes, as well as popular and trending colors, and AI generated novel patterns.

The design also incorporated a special thread embedded in a removable, futuristic plaid panel with IBM’s Watson’s Tone Analyzer, which responds in near real-time to the sentiment in a customer’s social media accounts.

“As a brand, we are always pushing the boundaries of what’s possible through innovation and disruption. These young designers truly embody this spirit by showcasing the successful integration of fashion, technology and science,” wrote Tommy Hilfiger’s chief brand officer, Avery Baker, in [a blogpost for IBM](#).

to produce key insights on trends to both expedite the initial design process and better predict demand for hyperlocalized products.

IBM has teamed up with Tommy Hilfiger and The Fashion Institute of Technology (FIT) Infor Design and Tech Lab on a project called Reimagine Retail to demonstrate this. The aim is to show how AI capabilities can give retailers an edge in terms of speed, and equip the next generation of retail leaders with new skills using AI in design, according to Steve Laughlin, general manager of IBM Global Consumer Industries.

To do so, FIT students were given access to IBM Research's AI capabilities including computer vision, natural language understanding, and deep learning techniques specifically trained with fashion data.

Those tools were applied to 15,000 of Tommy Hilfiger's product images, some 600,000 publicly available runway images and nearly 100,000 patterns from fabric sites. They then brought about key silhouettes, colors, and novel prints and patterns that could be used as informed inspiration to the students' designs.

"The machine learning analysis gave us insights about the Tommy Hilfiger colors, silhouettes and prints that we couldn't begin to consume or understand with the human mind. This enabled the FIT Fashion Design students to take their inspiration from Americana or popular fashion trends and marry that with the 'DNA', if you will, of the Tommy Hilfiger brand across those dimensions to create wholly new design concepts," explains Michael Ferraro, executive director of FIT's Infor Design and Tech Lab.



WWD Access the most trusted news and analysis of the fashion and beauty worlds

SUBSCRIBE NOW

BEAUTY

Revlon Posts Sharp Decline in Q2 Numbers

BUSINESS

Canada Goose's Summer Heats Up

BUSINESS

Adidas Q2 Sales Rise 10% With Lift From World Cup

SPONSORED
Recognizing Excellence in Luxury Service



BUSINESS / BUSINESS FEATURES

FIT, IBM and Tommy Hilfiger Get into AI for Fashion Design

The pilot project is an innovative approach to product development and marketing fashion faster.

By [David Moin](#) on January 14, 2018

[Tommy Hilfiger](#), IBM and The Fashion Institute of Technology Infor Design and Tech Lab are collaborating on a project utilizing artificial intelligence to “identify and facilitate fashion trends that will resonate with shoppers before they appear on the runways of New York, London, Milan and Paris,” WWD has learned.

Officials involved in the project say it’s designed to help the next generation of retail leaders better meet the needs of customers, be quicker to capitalize on the latest trends, hasten the product development cycle, and to provide students with “a high-impact learning experience.”

“IBM approached us with an opportunity to re-imagine the business of fashion and retail,” said Michael Ferraro, executive director of the F.I.T Infor Design and Tech Lab. “The prospect of this collaboration was exciting and exactly **fit** the mission of the F.I.T Infor Lab which is part of F.I.T.’s move toward becoming an innovation center for creative industries worldwide.” Ferraro added that working with Hilfiger and IBM was a “perfect opportunity to provide students across three majors – textile development and marketing, fashion design, and international

ESSENTIALIST

— TODAY'S MUST READ —



[Laverne Cox, Meg Ryan, Cardi B Front Row at Christian Siriano](#)

LATEST GALLERIES

trade and marketing for the fashion industries – with advanced technology that will equip them to become the visionary fashion professionals of the future.”

Asked about the possibility of commercial applications from the project, Ferraro replied, “[Tommy Hilfiger](#) is currently evaluating any further action from the outcomes of the project...However, we have already received inquiries and interest in replicating a similar incubation project and believe strongly that there are infinite applications for custom, tech-infused and IA-inspired fashion.”

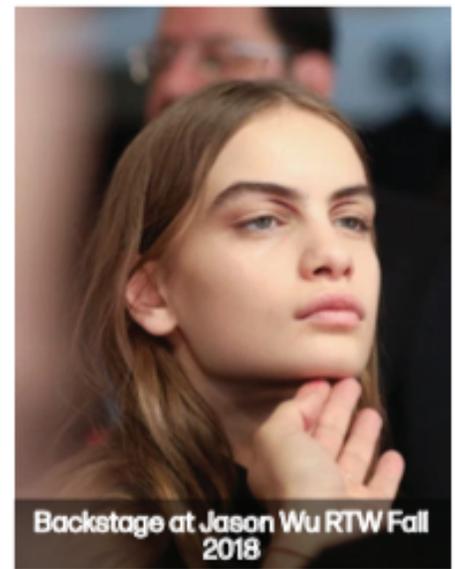
Steve Laughlin, general manager of IBM Global Consumer Industries, added, “Although there were no commercialized products from the pilot, it advances how we address a key change in the industry. Making trend predictions more accessible and getting products to market faster means fewer lost sales. For consumers, when a desired item is not immediately available in store or online, the sale will not occur.”

Supply chain models are decades old and on average require 12 months to go from initial design sketches to a product hitting the sales floor, according to Laughlin. “AI can help improve overall lead times by generating efficiencies along the entire supply chain and we have seen incredible opportunity to accelerate the initial product design process,” said Laughlin.

“In the world of fashion we have looked at design teams that continually look to spot trends from market trips, runway shows, fashion archives and social media influencers. This is a very time-consuming, resource intensive manual process that can only be solved by giving employees more information.”

The pilot utilized IBM research capabilities including computer vision, natural language understanding, and deep learning techniques specifically trained with fashion data. These AI capabilities produced key silhouettes, colors and a new “neural network” that designs novel prints and patterns. according to those involved in the project.

So far, six designs emanating from the project and incorporating AI-generated patterns, trending colors and silhouettes, were shown to Hilfiger, and three are being showcased at the National

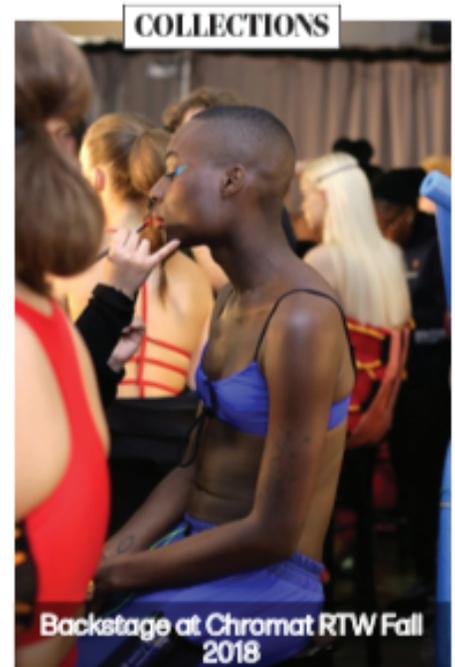


Backstage at Jason Wu RTW Fall 2018



COLLECTIONS

Milly RTW Fall 2018



COLLECTIONS

Backstage at Chromat RTW Fall 2018

Retail Federation convention being held today through Tuesday at the Jacob Javits Convention Center on Manhattan's west side. Hilfiger is among the speakers participating at the NRF event.

To create the designs, FIT students were given access to IBM's AI tools, thousands of Hilfiger's product images and thousands of patterns from fabric sites to inspire 3D digital designs. The students are learning to use tech to identify trends that may resonate with shoppers before they appear on the runways. Their designs were presented to Phillips Van Heusen and IBM executives and a Tommy Hilfiger designer. And the group felt the best design was a plaid tech jacket by FIT senior Grace McCarty. She incorporated a special thread embedded in a removable, "futuristic" plaid panel with IBM's Watson's Tone Analyzer that responds in near real time to the sentiment in a customer's social media accounts. When designing her look, she drew inspiration from the AI-produced insights on Tommy's brands' style and silhouettes, as well as popular and trending colors, and AI-generated novel patterns.

Among those involved in the project is Hui Wu, a researcher at the IBM T.J. Watson Research Center who is involved with the application of artificial intelligence to fashion design and predicting trends.

Regarding Hilfiger, Laughlin said the designer and his company has been "at the forefront of transforming the retail industry and exploring the intersection of fashion and technology. For example, they launched 'TommyNow' a see-now, buy-now model that shortens the typical 18-month production process into just six months."

 [tommy.hilfiger](#)

WWD FREE ALERTS & NEWSLETTERS
Enter your email address: **SIGN UP**
[PRIVACY POLICY](#)

PMC TRENDING


DEADLINE
Jill Messick, Producer And Studio Exec, Dead Of Suicide At 50


DEADLINE
'Fifty Shades Freed' Builds E.L. James Trilogy To


HollywoodLife
Enter to Win \$500 in Beauty Products!


IndieWire
'Outside In' Trailer: Edie Falco and Jay Duplass Smol-

Recommended by **SOCIAL STUDIES**


Personal original of tod outside

SPONSOR CONTENT [HOME](#) > [TECH](#)

IBM teamed up with FIT to show how AI is changing the future of fashion design



Created by Insider Studios with IBM

Feb 12, 2018, 10:45 AM



IBM

Luis Hernandez Bermejo, FIT Fashion Design Major, Stefka De Ruiter, FIT Fashion Design Major, Grace McCarty, FIT Fashion Design Major, and Amy Taehwa Eun, FIT Fashion Design Major

Today's young shoppers increasingly want personalized goods. According to an IBM study, 52% of [Gen Z](#) females would like to see tools that allow them to customize products for themselves.

Similarly, e-commerce and niche direct-to-consumer brands have dramatically impacted and sped up how products are designed and introduced. Shoppers can now see runway videos on social media and expect those styles to immediately become available for purchase. And even though some fast fashion retailers can get products onto shelves in just weeks, most apparel takes six to 12 months for development.

IBM's AI capabilities can give retailers an edge to speed up the inspirational design phase, helping designers and fashion houses better personalize offerings and meet customers' expectations of designs.

That's why our school, the Fashion Institute of Technology, teamed up with Tommy Hilfiger and IBM on a recent project using IBM Research AI tools to analyze real-time images and fashion industry trends. These AI tools looked at 15,000 images of Tommy Hilfiger products and some 600,000 publicly available runway images to better decipher the silhouettes, colors, and styles. One tool, which analyzed nearly 100,000 patterns from various fabric websites, produces novel and unique patterns — all which informed and inspired our designs.

“The goal was to equip the next generation of retail leaders with new skills and bring informed inspiration to their designs with the help of AI,” said Avery Baker, the chief brand officer at Tommy Hilfiger in an [IBM blog post](#). “AI can identify upcoming trends faster than industry insiders to enhance the design process.”

Here are some key takeaways from our experience.

Learning about AI and fashion design

“As a fashion designer, I tend to stay in my own head, but with these tools, I was able to look into databases that were curated with an incredible amount of information, which, in turn, inspired in new ways that I could make design decisions faster.” — *Grace McCarty*

“The tools that I used were the silhouette recognition tool, the color analysis tool, and the print tool, which make the designer’s job easier and more efficient but does not take their role. AI technologies and fashion designers will be in a symbiotic relationship.” — *Amy Taehway Eun*

How technology like AI will change our roles as designers

“The traditional design process will always exist; for example, journal research, collecting fabrics, etc. But I believe that taking an innovative approach, like we did with this project, will help designers understand the new tools available to enhance our designs for the future. Technology is improving and changing by the day, and I think we are very lucky to have the chance to be a part of this movement.” — *Stefka de Ruiter*

“As a result of this project, I can see that the relationship between AI and designers will be collaborative. Technology will help designers create new and fresh products. In the end, I believe a designer’s role will be the same. They will research inspirations, they will design, but they will have better options and a different perspective offered to

them by AI technology.” — *Amy Taehway Eun*

“I believe tools like the color print tool or the color trend tool only aided my design process. What would take hours of research can now be accomplished in a few hours with the click of a button.” — *Luis Hernandez Bermejo*

Our favorite part of the project

“My favorite part of this project was being able to work with so many different people from so many different fields. I also loved being able to experiment with all of the tools. I am someone who is constantly looking for new media to either enhance my designs or my design process.” — *Grace McCarty*

“One of favorite parts was playing with cognitive fashion tools. I especially liked using the print tool. I had such a great time putting lots of images into the tool and seeing what kind of results came out. This AI tool gave me another vision for textile design.” — *Amy Taehway Eun*