

# Field experiment uses fake emails to measure gender and racial bias among startup investors

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Credit: AI-generated image ([disclaimer](#))

During his six years teaching a course on financing for startups, Ilya A. Strebulaev heard a common concern from students: Silicon Valley investors discriminate against women and people of color.

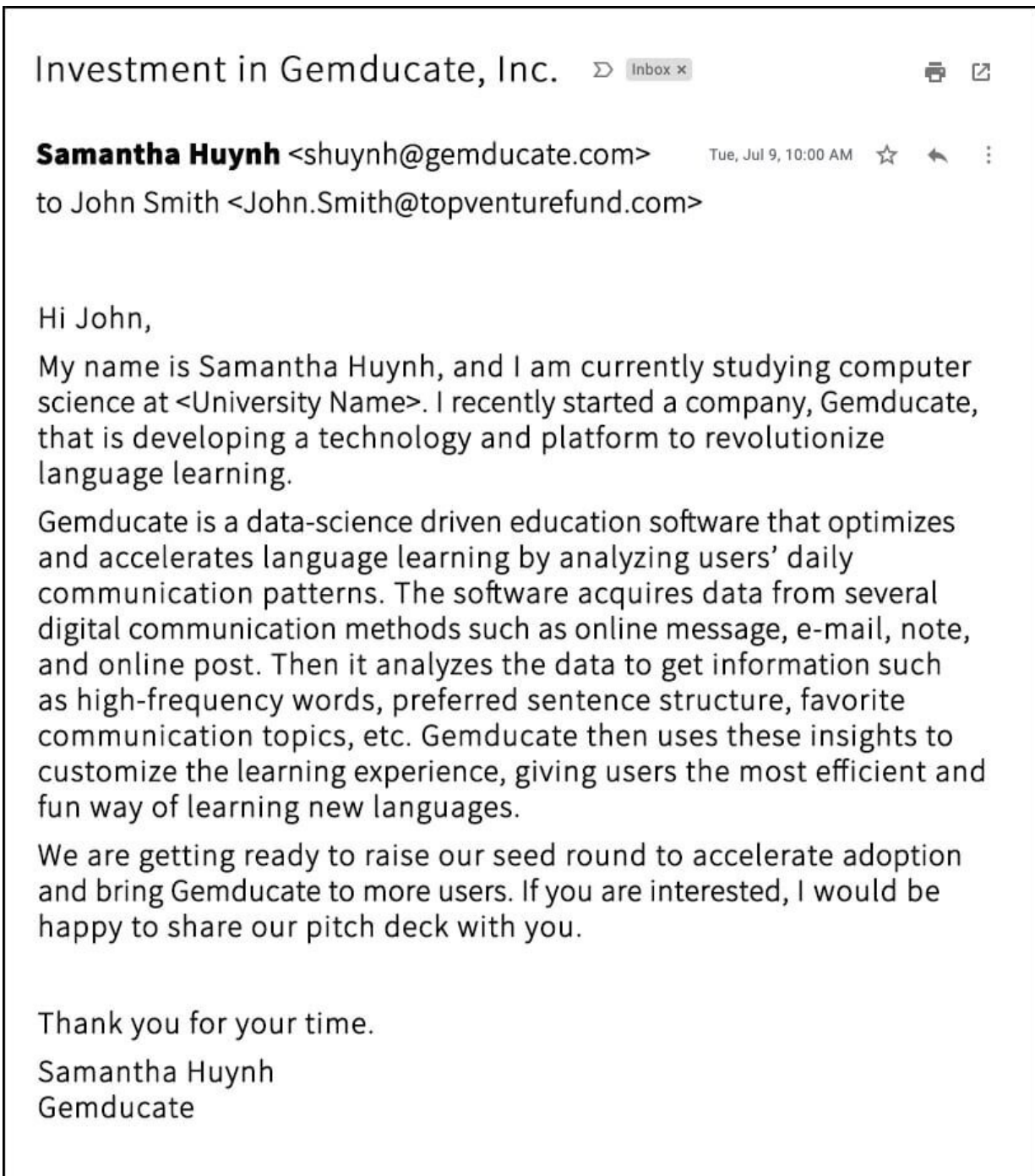
A finance professor at Stanford Graduate School of Business, Strebulaev had encountered plenty of anecdotes to support this assumption. Often-cited statistics also seemed to suggest [gender bias](#): For every dollar invested in startups with female founders in 2017, male-founded companies got \$35. And fewer than 10 percent of U.S. venture capitalists are women.

Yet no field-based research had proven that startup investors favored white men. So Strebulaev set out to test the conventional wisdom in the [real world](#).

Along with Will Gornall, his former student and a finance professor at the University of British Columbia, Strebulaev sent 80,000 emails pitching fake startups to 28,000 venture capitalists and [angel investors](#), signed with names indicating gender and ethnicity. The results of the field experiment were unexpected: Entrepreneurs with female and Asian-sounding names received a higher rate of interested replies than their presumed male or white counterparts.

"We were surprised to find bias in favor of female and Asian entrepreneurs at this initial stage of the investment pipeline," Strebulaev says. "That doesn't mean there's no discrimination against them overall—we know the pipeline is leaky, but we don't know where."

## **Fooling the Investors**



Researchers sent out 80,000 fictitious emails, such as this one, pitching fake startups to potential investors. Credit: Stanford University

Pulling off the experiment wasn't easy. First, Strebulaev and his collaborator asked students at Stanford and the University of British Columbia to create email pitches from fake startups offering a promising product or service, without overlapping too closely with existing companies. Feedback from professional investors helped the researchers select 50 strong pitches across industries like energy, healthcare, and information technology. The researchers verified that the company names were unique and created a basic website for each (the fact that all were "very early stage" would explain the lack of details).

Next, the researchers invented 200 founders, all graduate students at prestigious American universities. For first names, they started with the 1,000 most common baby names in the U.S. in 1995 and removed those of ambiguous gender, like Taylor and Alexis, and those that could sound Hispanic or Jewish, like Maria or Alexandra. For last names, they drew from the most common surnames in the 2010 U.S. Census that were primarily associated with white or Asian people. They randomly paired the names to create quartets representing all permutations, such as Adam Jensen, Adam Liu, Jennifer Jensen and Jennifer Liu. Online searches ensured no real student with the same name attended the same university.

Randomly adjusting the senders' names, the professors then sent 80,000 cold pitches to investors focused on U.S. startups, over two and a half weeks in October and November 2018. More than 3,000 received an interested reply, such as a proposed meeting or phone call or a request for more information. Women received interested replies 8 percent more frequently than men, and entrepreneurs with Asian surnames heard back 6 percent more often than those presumed white.

## **Why the Bias?**

The study itself couldn't explain why investors slightly preferred pitches

from white and Asian entrepreneurs. Strebulaev says there are two potential interpretations: One is that investors are responding to their perceptions about the different abilities and opportunities of various groups of entrepreneurs.

"Let's say investors perceive it as more difficult for both Asians and women to enter graduate programs and found startups and assume they are more risk-averse. The investors may assume these individuals would only become founders if their idea was much better," Strebulaev says.

Another [possible explanation](#) is that some investors have a preference for women or Asian founders, perhaps because they are from the same group or seek to support underrepresented entrepreneurs. Notably, the study took place at the height of #MeToo revelations in Silicon Valley and beyond. "Had we done this study five years ago, or even one year ago, maybe the outcomes would be different," Strebulaev says.

## **The Need for More Research**

Strebulaev emphasizes that his study only proves that discrimination isn't holding back women and Asian entrepreneurs at the cold pitch stage. "In light of the substantial gender imbalance in real-world investment, one way to interpret our results is that a bias against female entrepreneurs materializes after the initial introductions, perhaps during in-person meetings," he writes.

For example, a 2014 study asked subjects to choose among two video pitches for startups, randomly assigning male or female narrators. Sixty-eight percent of participants chose to fund companies pitched by a male voice, even though pitches were identical.

Strebulaev says he's planning another real-world study to examine discrimination further down the investment pipeline. The details are top

secret, lest any investors catch wind of the experiment. It's safe to say more surprises will be coming from his research team before long.

Provided by Stanford University

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