

COVER STORY

Changing the World

Meet five young people who are trying to make a difference in the world

BY ALESSANDRA POTENZA

Millennials (people born between 1980 and the mid-2000s) are often accused of being lazy and self-absorbed—and doing little more than checking Instagram, snapping selfies, or playing video games. But we didn't have to look very far to find teens and 20-somethings devoting their time and energy to more important causes. With this new annual *Upfront* series, we want you to meet five inspiring young people who are working to make the world a better place.

Watch a video on Lauren Singer at upfrontmagazine.com



**Mihir
Garimella**
Inventing a
life-saving
drone

Age: 16 •

From: Pittsburgh,
Pennsylvania



Lauren Singer Living waste-free

Age: 24 • From: New York City

The average American produces more than 4 pounds of trash every day—nearly double the amount in 1960—and that garbage is doing great damage to the environment. But Lauren Singer is proving it doesn't have to be that way: She can fit three years' worth of her trash into a 16-ounce Mason jar.

To live almost trash-free, the 24-year-old buys package-free food, composts food scraps, wears secondhand clothes, and makes her own toothpaste and deodorant. What about toilet paper, you wonder? She uses recycled and biodegradable brands that don't pollute.

It all began in 2012, when Singer was a senior in environmental studies at New York University. One day, she noticed that a classmate used disposable plastic containers, bottled water, and plastic silverware for lunch, producing a lot of garbage. That led Singer to look critically at her own waste. In her fridge, almost everything was wrapped in plastic, she realized.

That's when she decided to live a zero-waste life. What little waste she now produces she collects in her jar. It contains things like produce stickers, clothing tags, a credit card, and a Band-Aid (though now she makes her own, with cotton rounds tied with cheesecloth).

When Singer started a blog about her lifestyle (TrashIsForTossers.com), she realized that many of her readers had no time to make their own toothpaste and deodorant. So she launched a business, The Simply Co., to sell her handmade beauty and cleaning products, packaged in recyclable containers. Her goal is to inspire others to produce less trash and reduce our footprint on the environment.

"Plastic pollution is a major problem," she says. "Everyone has an equal share of responsibility."

*Singer couldn't
recycle expired
credit cards...*



*... or Band-Aids; now
she makes her own.*



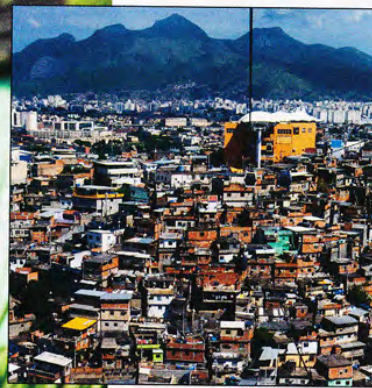
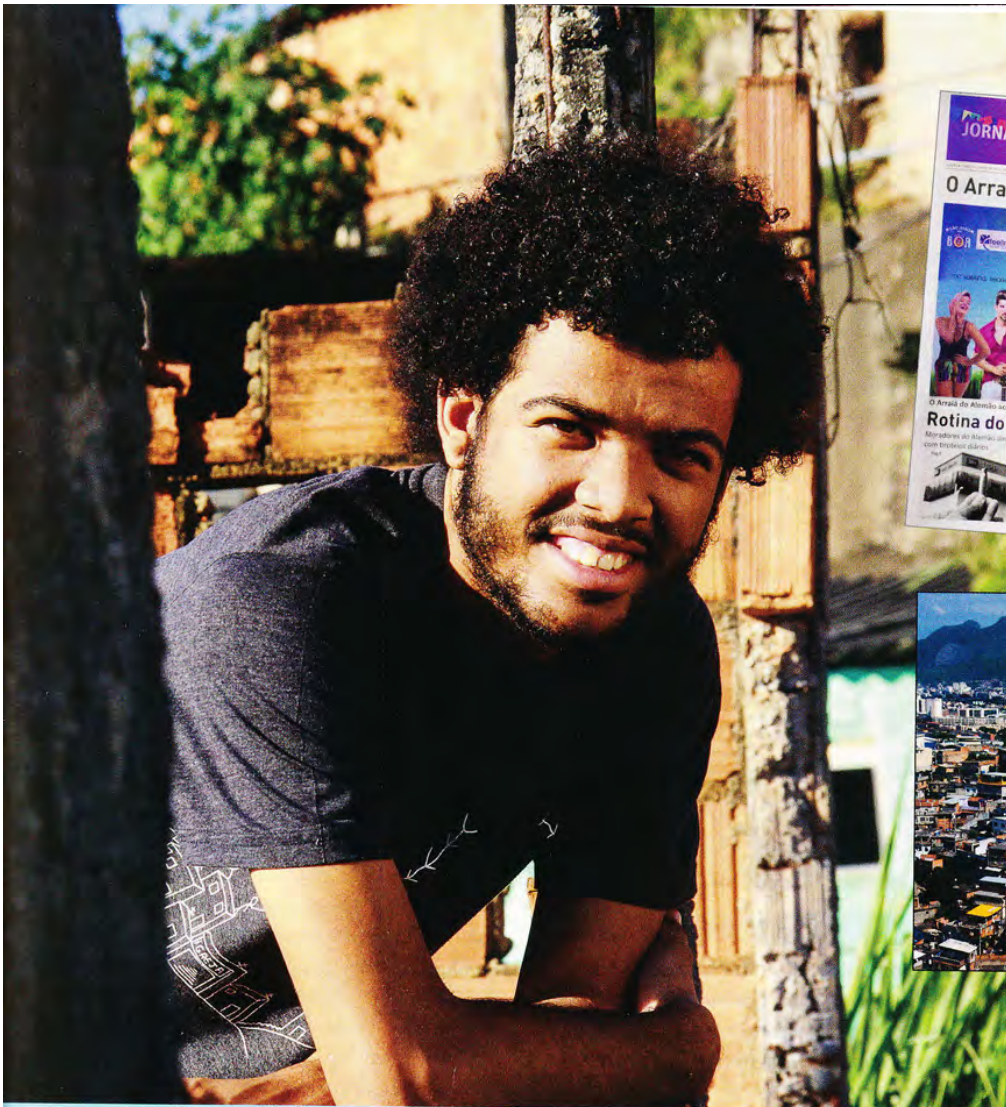
Drones have gotten a lot of attention lately, often for killing terrorists in places like Pakistan and Yemen. Thanks to Mihir Garimella, we could soon be hearing about another use for drones: saving lives.

The 16-year-old junior at Chapel Area High School in Pittsburgh is working on a "flying robot" that can autonomously carry out search-and-rescue operations, detect the source of fires, and even find people trapped inside collapsed buildings. Garimella is trying to keep the cost of his drone, which flies itself and can escape moving obstacles like falling ceilings, at about \$250. That's much lower than traditional search-and-rescue drones, which can cost tens of thousands of dollars and need an experienced pilot to operate them. Because of the low cost, his invention could exponentially increase the use of drones in emergency situations, especially in developing countries.

Garimella's eureka moment came in 2013, when he went on a family trip to India, where his parents were born, and unintentionally left a bunch of bananas in the kitchen. When he came back, the house was swarming with fruit flies. Inspired by the tiny insects' ability to escape swatters, he outfitted a drone with sensors that detect movement and programmed it to buzz in the opposite direction of moving objects. A prototype of the drone recently won him awards at the Google Science Fair and the Intel Science and Engineering Fair.

Now, when he's not doing homework, Garimella works in his room perfecting the technology—like heat sensors and face-recognition software—to locate trapped victims.

"Making an impact is something that really matters to me," Garimella says. "Trying to develop a product that can be used by people in developing countries is one way to make an impact."



Silva's newspaper
(top); and his favela
in Rio de Janeiro.

Rene Silva Giving voice to Brazil's favelas

Age: 21 • From: Rio de Janeiro, Brazil

Brazil's favelas—overcrowded slums on the outskirts of big cities—are grim places to grow up in: Poverty is widespread, basic services like indoor plumbing are nonexistent, and violent gangs and drug lords rule the streets day and night. But Rene Silva has never given up. Since he was a little kid growing up in a Rio de Janeiro slum, he's wanted to change how people think of the favelas—and how favela residents think of themselves.

"People [here] need to know that they're powerful," Silva, 21, says.

At 11, he started his first newspaper, *Voz da Comunidade* (Voice of the

Community), to give residents of his favela an outlet to express themselves and share what was going on in the neighborhood. Silva's paper started with 100 copies printed with his school's copy machine, but today it has a print run of 10,000. And it reaches thousands more people through its website.

Silva racked up 20,000 new followers in 2010, when he live-tweeted a police raid on his favela. He had streaming video and eyewitness reports that were absent from mainstream media, which wasn't allowed to get close. His tweets were retweeted by other Brazilian journalists, bringing renewed attention to the favelas.

Today, Silva keeps working at his paper, trying to change life in the favelas. Thanks to his articles, several have gotten better street lighting. And a community center was recently built to give residents free job training. He wants to expand his newspaper to favelas all over Brazil. But above all, he hopes that his work will inspire other young people from poor neighborhoods like his.

"Many young people learn from my story that we should never give up. Never," he says. "We have to fight hard. Nothing is easy. We must seek the best way and best strategies to not give up on our dreams."

BETHINO CASAS NOVAS (RENE SILVA); COURTESY JOURNAL VOZ DA COMUNIDADE (NEWSPAPER); YASUYOSHI CHIBA/AFP/GETTY IMAGES (FAVELA)



Sonita Alizadeh

Rapping for women's rights

Age: 19* • From: Herat, Afghanistan

Rap music was born in the U.S., but Sonita Alizadeh is using it to raise awareness of women's issues around the world—including child marriage in conservative Muslim societies, a topic she's very familiar with.

The 19-year-old grew up in Iran, where her family had fled from their home in war-torn Afghanistan. As undocumented immigrants in Tehran, the capital, they lived in poverty, with little food to eat. But Alizadeh dreamed of a career in music. When she was 14, she began rapping and her songs became popular on YouTube, even winning some awards. Then came devastating news: At 16, her mother told her she was going to be sold into marriage to a man in Afghanistan for \$9,000—money needed to pay for her brother's wedding. She would have to quit singing.

"I was so young," Alizadeh says. "If I got married, I couldn't sing, I couldn't get education."

So she did what she knew how to do best. She wrote a rap song called "Daughters for Sale," in which she pleaded with her family not to sell her off. It worked. Alizadeh's mom, who had also been a child bride, cried when she saw the video and put a stop to the marriage. The song became popular online and got the attention of the U.S. non-profit Strongheart, which mentors young people who come from extreme poverty, refugee camps, or war zones. Strongheart offered Alizadeh a scholarship to study English and music at the Wasatch Academy, a college-prep school in Utah. In the U.S. since January, Alizadeh has continued rapping and performing occasional concerts when she's not in class.

She wants her music to empower other women and encourage them to fight for their freedom. Alizadeh says: "I would like to be a voice for women who don't have the right to speak for themselves."

*Alizadeh thinks she's about 19. Her exact age is unknown because she doesn't have a birth certificate.

Eric Chen

Finding a cure for the flu

Age: 19
From: San Diego, California

The flu kills 250,000 to 500,000 people worldwide every year, and as many as 50,000 of them are in the U.S. But it may have finally met its match in Eric Chen.

The 19-year-old science whiz has been working for four years on finding new drugs to combat the influenza virus. His interest was sparked in 2009, when news about the deadly swine flu made him realize that the flu wasn't just an excuse to stay home from school. At 15, Chen began working in a lab at the University of California, San Diego, and invented a computer model that scans thousands of chemical compounds and predicts which ones are the most likely to work against the flu. His research enabled him to find six promising leads for the development of drugs that could one day halt flu pandemics.

"This could be the start of saving millions of lives," President Obama said last year when he heard about Chen's project at the White House Science Fair.

The son of Chinese immigrants, Chen now studies math and computer science at Harvard University in Massachusetts, while the scientists he worked with during high school continue research on the drug leads he found. In his free time, he visits schools, hoping to inspire younger kids to get interested in math and science.

"Society has this expectation that, Oh, you're just a kid, you're a high school student," he says. But thanks to the Internet, he adds, that's not necessarily true anymore. "If you're a kid that has ideas, that has motivation, that really wants to do something, you should go after that," he says. "All the tools, all the resources are now there for you. You shouldn't be afraid to go and take them." •

