What we can learn from the world's first computer bug

The world's first computer program was written by Ada Lovelace, an English mathematician, in 1843. She was friends with Charles Babbage, who had been seized by the idea of building a mechanical computer to ***automate*** the process of creating the mathematical tables used in navigation. Babbage hoped his machine could automate away human shortcomings. To publicise his design and help him raise the money to build it, Lovelace published an academic paper explaining its workings, in which she included the first program. She thus became the first programmer in history.

automate　自动化

But something unusual happened when computer scientists recently translated her program to run it on a modern computer: it turned out to contain a bug. It seems most likely that the bug was a typo that occurred when the program was typeset for printing. But it's a reminder that software is a human creation that reflects the error-prone nature of its creators.

That is worth remembering today because, in the era of artificial intelligence and algorithmic decision-making, the idea of using machines to automate processes and overcome human failings has resurfaced. Software companies claim that using algorithms to do certain jobs, such as filtering job candidates, is fairer than having humans do it, because machines can't be biased or ***prejudiced*** in the way that humans can. But such systems are often based on historical data sets, which are intrinsically biased. Train your hiring algorithm to favour the kinds of employees who have done well in the past and it will favour white men.

prejudice　偏见；歧视

The lesson from Ada Lovelace's first program is that automating away human shortcomings is much harder than it looks, whether in 1843 or 2019.