NEWS & TECHNOLOGY 12 July 2017

Neural network poetry is so bad we think it's written by humans

AI is completely stupid about multidefinition and would be able to write creative poetry? I'm more than sceptical... Poetry, by definition, is a communication channel with ambiguity.

But is it better than monkeys?
David Hornback/Millennium Images, UK

By **Matt Reynolds**

CAN a machine incapable of feeling emotion write poetry that stirs the soul? A neural network trained on thousands of lines of poetry has tried its hand at

penning its own rhymes. Its best efforts even fool readers into thinking they're reading the output of a human mind.

The poetic bot is fully tunable, says Jack Hopkins, who developed the system while at the University of Cambridge. It can be programmed to write in a particular rhythm or on specific themes.

Set the theme to "desolation", for example, and the angst-ridden AI comes up with the following:

The frozen waters that are dead are now
black as the rain to freeze a boundless sky,
and frozen ode of our terrors with
the grisly lady shall be free to cry

The AI can be endlessly tweaked to produce different flavours of poetry. It could write about Brexit in the style of a Greek epic, or rewrite snippets of *Romeo and Juliet* while mimicking Eminem, Hopkins says.

But flesh-and-blood poet Rishi Dastidar suspects that the AI is all surface and no subtext. Real poems explore ideas that might not be immediately apparent in the text, he says. But an AI doesn't deal in ideas, it just puts one word after another.

Although it might be short on original thought, the AI poet did have plenty of examples to draw inspiration from. It was trained on over 7 million words of 20th-century English poetry.

"It could write about Brexit in the style of a Greek epic, or write snippets of Romeo and Juliet à la Eminem"

However, unlike most human poets, the neural network doesn't think in words; rather, to approximate poetic idiosyncrasies like archaic spelling and whimsical punctuation, it learned to write its stanzas one letter at a time. But rather than

let the network freestyle, Hopkins added another element that encouraged it to write in particular styles or on certain themes.

Tell the neural network to write about fire, for example, and it will keep checking to make sure some of the words in the line it is writing concern fire.

Hopkins employed a similar mechanism to persuade the AI poet to write lines that rhymed or followed a particular rhythm. For example, Hopkins could make the AI write verse in iambic pentameter – the poetic rhythm that is common in Shakespeare's plays and sonnets.

This puts the AI poet decidedly behind the times, says Dastidar. "The art form and the craft stopped thinking about these things 70 years ago," he says. Modern poets deliberately choose when to follow or depart from formal constraints.

You can't be truly creative, says Dastidar, if your template is only what has already been written.

Lack of creativity aside, the neural network still managed to fool some people. Hopkins asked 70 people to guess who'd written a fragment of poetry – a computer or a living, breathing poet. The most human poem, it turned out, was actually written by an AI.

This article appeared in print under the headline "AI poetry is so bad it could be human"