

MIT Technology Review

Volume 127
Number 4

July/August
2024

94

Why does AI
hallucinate?

How supershoes
make us faster

Surfing
the desert

Game never over

AI is
changing
how
we play

30/7/24
B



Display until September 3, 2024

\$10.99US \$12.99CAN

08>



0 71896 01308 5

“I was like, oh my God, this is my destiny and is what I was put on the planet for.” —p. 46



Front

- 2 Letter from the editor

THE DOWNLOAD

- 9 The problem with plug-in hybrids; a cancer vaccine renaissance; Public (not Comic) Sans; an Apollo program for the age of AI; climate change board games; and jobs of the future: space debris analyst

EXPLAINED

- 20 **Why does AI hallucinate?**
The tendency to make things up is holding chatbots back. But that's just what they do.
By Will Douglas Heaven

PROFILE

- 22 **Meet the architect who's tapping into timber's biological programming**
Architect Achim Menges is creating structures that warp perfectly to plan.
By John Wiegand

Play

26 Played out

Gamification was always a dubious concept. So how did it take over the world?

BY BRYAN GARDINER

34 Running on air

Supershoes are transforming marathoning—perhaps nowhere more so than in the world's most decorated distance-running nation.

BY JONATHAN W. ROSEN

46 Games without limits

Generative AI could bring an unprecedented expansiveness to video and computer games, opening up possibilities we can only begin to imagine.

BY NIALL FIRTH

54 Desert swell

The growing business of surf pools wants to bring the ocean experience inland. But with many planned for areas facing water scarcity, who bears the cost?

BY EILEEN GUO

Back

64 Return of the tube

A mainstay of 20th-century innovation, pneumatic tube systems became virtually obsolete. Now they're back.
By Vanessa Armstrong

68 An AI startup made a hyper-realistic deepfake of me that's so good it's scary

Synthia's new technology is impressive but raises big questions about a world where we increasingly can't tell what's real.
By Melissa Heikkilä

74 Is this the end of animal testing?

Researchers are increasingly turning to organ-on-a-chip technology for drug testing and other applications.
By Harriet Brown

80 System shock

Three books reckon with technological complexity and the wicked problems it creates.
By Bryan Gardiner

FIELD NOTES

84 Legos in the lab

Scientists use these colorful bricks to build everything from bioprinters to microscopes—increasing the accessibility of science in the process.
By Elizabeth Fernandez

125

88 You are what you play

What if your favorite childhood toys could help shape your future?
By Bill Gourgey



Cover illustration by Nick Little