

## Emerging generations and evolving intersections between technology and humanity

Dr Jordan Nguyen

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### Abstract

Biomedical engineer, inventor, TV presenter, and visionary, Dr Jordan Nguyen has lived a life of curiosity and wonder — exploring positive opportunities in science and technology, including robotics, artificial intelligence, bionics, extended reality and avatars. He believes that technology is a powerful tool that we as humans can choose to harness to create a better tomorrow. This is a precis of his talk.

As Stephen Hawking said, “Intelligence is the ability to adapt to change,” and Dr Nguyen believes the rate of technological change is the fastest we’ve ever seen, but might also be the slowest rate we’ll ever see again. Jordan Nguyen argues that we should embrace and collectively steer these changes.

He has travelled widely as a TV presenter, and so has been struck by the way younger generations are successfully dealing with challenges that no previous generation has had to deal with. He argues that, as we face future unknowns, we should seek areas of inspiration and begin with that purpose.

One area is AI: artificial intelligence. His father was using computer science (neural networks and fuzzy logic) in building a prototype robot, and “borrowed” some of Jordan’s toys when he was just 5 years old to help train the robot. This robot provided him with inspiration.

At university, he started work in robotics and AI. In his third year of university, Jordan dived into a friend’s swimming pool, hit the bottom, and damaged the muscles in his neck. Although he did not break his spine, he began exploring the options available to

quadriplegics. When he discovered how limited they were, he decided to persevere in engineering to help develop technologies for disabilities. His PhD was developing a mind-controlled smart wheelchair that used neural networks to distinguish among thought patterns (utilising electroencephalography, or EEG), in order to control the wheelchair. He has continued since to use technology to assist people with disabilities and the elderly.

He says we are too tough on failure, on making mistakes. Mistakes are what we learn from. Robots, he says, unlike some people, do not count mistakes as debits.

A motto of his is “one life, persists to improve many.” He left a position at ResMed in order to work for a charity and to develop Psykinetic, a social business attempting to put mind into action. An example of a very useful technology is software combined with eye trackers available over the counter. Connected to a computer, it tracks where the eyes are gazing and through this can control a range of apps.

Young people are no longer content, he says, to read or listen — they want other ways to learn, such as interacting with the

content, or building a virtual reality experience. For instance, in the documentary *Meet the Avatars*, shown on ABC Catalyst,<sup>1</sup> one sits across a virtual table, facing a virtual avatar of a loved one and having an interactive conversation.

Dr Nguyen says, “dream big, take action” — it’s brave to dream but much braver to act.

In another Catalyst documentary, *Becoming Superhuman*,<sup>2</sup> Jordan and his Psykinetic team build a headband that picks up little electrical signals from the eyes (utilising electrooculography, or EOG). This allows the wearer to control a smart wheelchair,

control home equipment, or even drive a vehicle with his eyes, even if incapable of physical movement or speech.

His 2020 book, *A Human’s Guide to the Future*,<sup>3</sup> attempts to disseminate what science and technology is available to us, in order to collectively work towards an optimistic future and build a better world for future generations.

Finally, he proclaims, “Stand up, stand out, move forward, don’t swerve, back the forward thinkers forging futures we deserve. Be the kind of person who draws up each rising sun. Let’s stop dreaming of a better world and make one.”

## References

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1 <https://www.abc.net.au/catalyst/meet-the-avatars/11017094>

2 <https://www.abc.net.au/catalyst/becoming-superhuman-part-1/11016540> and <https://www.abc.net.au/catalyst/becoming-superhuman-part-2/11016544>

Nguyen, J. (2020). *A human’s guide to the future*. Macmillan Australia.

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3 <https://www.amazon.com.au/Humans-Guide-Future-Jordan-Nguyen/dp/1760780022/>

