

Why this maths genius refuses to work for a hedge fund

Tess Bennett *Technology reporter*



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Terence Tao has a mind that could make bankers a lot of money.

The Adelaide-born professor was studying university-level maths at the age of nine. He completed his PhD in mathematics at Princeton at 20 and at 31 he was awarded the Fields Medal, regarded as the “Nobel Prize of mathematics”.



Terence Tao has been recognised for his efforts to turn complex maths into a simple tool for everyday problem-solving.

But the UCLA professor has been unmoved by job offers from the finance sector that have come his way over the years, preferring to pick his own (extremely complex) problems to solve.

“In academia you get a lot of freedom to work on your own research. You choose the type of problem you work on,” he told *The Australian Financial Review*.

“If I worked for a hedge fund they would ask me to solve a very specific problem that would make them money. It didn’t really appeal to me.

“I have a comfortable life. I think I have everything I need from my job and I feel like the stuff I do can actually help people.”

On Wednesday night, Professor Tao was named the Global Australian of the Year for 2022, an award presented by Advance Global Australia [<https://www.afr.com/work-and-careers/management/fresh-push-for-advance-as-it-proves-the-value-of-aussie-networks-20180207-h0vkc9>] that recognises the soft power and significant influence of Australian expats who are leading crucial advancements on the global stage.

Professor Tao was selected for his contribution to mathematics and efforts to turn complex maths into a simple tool for everyday problem-solving.

As well as teaching at UCLA, Professor Tao runs a course on mathematical thinking on online learning platform MasterClass [<https://www.afr.com/work-and-careers/education/pandemic-delivers-lessons-in-online-learning-20210412-p57ikx>] for math buffs as well as students who may have been turned off the subject in school.

“I think people get the wrong impression because they see maths presented in schools as a whole bunch of almost like magic spells that you have to mumble the quadratic formula to solve the equation, and if you get one step wrong, then it’s a disaster,” he said.

“What I was trying to do in this MasterClass was actually demonstrate the way mathematicians think about problems is actually a natural extension of the way people really think.”

Professor Tao loved numbers, puzzles and games from an early age. Once when he was given an English assignment to write about his home, he took a literal approach and listed all the items in each room of his house.

Skipping five grades of school, his parents, who migrated to Australia from Hong Kong in the '70s, would ferry young Terry between high school and Flinders University to accommodate his complicated timetable.

The child prodigy went on to author or co-author more than 350 research papers and 18 books.

Notably, he is one of several mathematicians who developed the techniques of compressed sensing, which involves using algorithms to complete a picture from a small amount of data.

The equations have been used to reduce the time it takes to conduct an MRI scan from three minutes to 30 seconds, without sacrificing the quality of the image.

“It turned out that this problem can be converted into a maths problem by solving a whole bunch of equations,” Professor Tao said.

Advance Global Australians chief executive Johanna Pitman said the awards were an opportunity to spotlight and celebrate the achievements of the Australian diaspora.



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“Professor Tao is a phenomenal example of the talent and contribution of Australian expats leading their professions on the global stage,” she said.

“His contribution to the field of mathematics is unparalleled. He is indeed one of the greatest mathematicians in the world.”

Correction — *An earlier version of this article incorrectly stated that Professor Tao received his PhD from the University of California.*

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