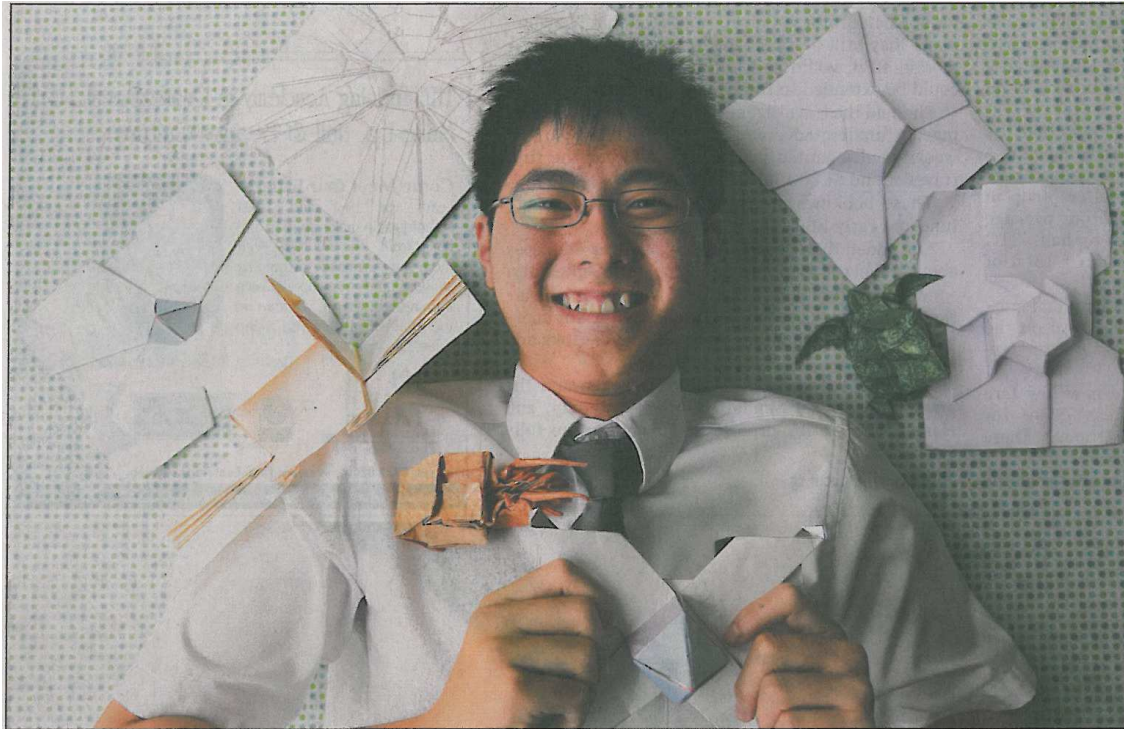


## Taking origami to the next level



NUS High School student Cheng Herng Yi's program can give instructions for symmetrical shapes such as vases but he aims to provide how-tos for challenging shapes. He will represent Singapore at the Intel International Science and Engineering Fair in the US next month. ST PHOTO: LIM WUI LIANG

### Experts say software on art form has potential of being used in industries

A new level of origami has unfolded here with the efforts of a Singaporean boy in this art of paper-folding.

NUS High School student Cheng Herng Yi has created a computer program that can teach you how to manipulate a sheet of paper into given shapes.

For now, the software can give instructions to create symmetrical shapes such as vases but he aims to improve it to provide the how-tos for challenging shapes such as houses.

The program will be released online for free.

Programs already exist to create animal shapes and some experts here said Herng Yi's program could eventually be used in industries.

In the United States, origami has been used to design more efficient safety airbags in cars and fit solar panels in small rockets without damaging them.

British scientists have created origami heart stents small enough to travel through blood vessels before unfolding to expand clogged arteries.

Herng Yi, 18, will represent Singapore at the Intel International Science and Engineering Fair in the US next month, a competition considered as the Olympics of science.

He was selected after winning a gold award at last month's national equivalent here, the Singapore Science and Engineering Fair.

Local origami artist Leong Cheng Chit said the art form could even help retailers and shoppers here.

The 67-year-old retiree said: "Imagine going to Ikea and instead of bulky and expensive lampshades, you get flat pieces of material with creases to show you how to fold it."

He said such products were likely to be cheaper and use fewer resources.

Mr Ronald Koh, another origami artist, said Herng Yi is a prodigy who could boost the image of art, which originated in China, here.

The 63-year-old retiree said: "A lot of people here still think origami is just about folding paper cranes. It has advanced beyond that level already."

Last year, Singapore hosted the fifth International Conference on Origami in Science, Mathematics and Education.

The five-day event featured more than 80 speakers, including professors from Nanyang Technological University and Professor George Barbastathis from the Singapore-MIT Alliance for Research and Technology centre which is based here.

He said his project creates 3-D models at an ultra-small scale, using origami.

Prof Barbastathis added that these nanostructures, which can be 100 times smaller than a strand of human hair, can be used to make smaller and better semi-conductors and optical devices.

In Singapore, Mr Leong and Mr Koh have each designed more than 100 original models and are among the few origami experts here.

Other more renowned experts include Dr Robert Lang, a former physicist with the US' National Aeronautics and Space Administration who quit the agency in 2001 to advise companies on origami uses.

There are no statistics tracking the number of such experts worldwide but Mr Leong said the fraternity is small.

He said: "Most of us know or have heard of each other. It's a very small world because no books can teach you how to fold at that level."

Herng Yi's invention showed a possible future for origami artists here, Mr Leong said.

"Origami is just paper and lines but its principles can be used for so many things," said Herng Yi.

"It's simple and complex all at the same time."