E D U C A T I O N

SINGULARITY UNIVERSITY, EXPONENTIAL UNIVERSE

The LKSF's education mission transcended old-school learning as it brought Singularity University's leading thinkers to 300 of Hong Kong's most promising young minds.

Singularity. The word has its origins in the Middle Ages, but now is very, very modern. It encompasses, in two meanings, the origins of the universe and, perhaps humanity's end. To astronomers, it is the moment of the Big Bang, the dividing line between nothing – then something. To computer scientists, it is the moment when computers will awake and realise their consciousness, growing beyond their human-provided programming.

At Singularity University, the meaning embraces the sense of explosive growth, of mankind at an inflection point beyond which everything will change. Their 'singularity' is not tinged with fear of computers running amok, but is an exciting point in humanity's development when the making of a new world will be possible – if we expand our minds and adopt new ways of thinking.

It was this expanded mindset that the Li Ka Shing Foundation (LKSF) brought to Hong Kong in April this year. The Techcracker Exponential Learning Program welcomed over 300 high school and university students at Chi Sun College at the University of Hong Kong for a cross-discipline look at the future from Silicon Valley's brightest minds.

SINGULAR SINGULARITY
The 'university' defies old definitions of a venerable school of traditional learning. Founded in 2008, its team of visionaries and partners from around the world are no ivory tower academics, but

Hong Kong based illustrator, Eliot Lee, summarises the speeches at Singularity University into fun, easy to understand and thought-provoking graphics.

hands-on leaders in fields including artificial intelligence (AI), healthcare, big data, robotics and many more.

They seek to "apply exponential technologies to address humanity's grand challenges". While normal universities may make the case that they help to solve humanity's challenges, this can be hard to see as professors specialise in incredibly narrow fields of study, such as the effect of a single molecule on a chemical pathway or the particular meaning of a text written by a long-dead philosopher.

Singularity University believes that advances in science and technology are driving an exponential rate of improvement across many fields, that, when considered together, can solve humanity's oldest and most persistent problems such as poverty, hunger and saving our environment. The university is a company that supports education, new-tech firms, NGOs, governments and others to work together and move ahead.

Students were energised by this novel, forward-looking approach. Student Andrew Kwok of The Hong Kong Polytechnic

University (PolyU) says he felt like he was "attending a school that has a curriculum from 2020". Zhou Juntai says he is ready to tackle the big challenges after attending Singularity University, excited by an experience that "introduced many amazing technologies to me, and encouraged me to contribute to solving the global challenges with my knowledge".

EXPAND YOUR MIND
The LKSF invited students directly, addressing them as "solvers and thrivers who have the potential to change our world". Those solvers loved the programme, and as attendee Peter Gu explains, "Every speech in Singularity University was really inspiring and quite different from traditional ones. It let us know what the coolest people in the world are doing."

One of those 'coolest people' is Chipp Norcross, Singularity University's Managing Director for Executive and Custom Programs. He spoke regarding the nature of exponential growth and encouraged students to go beyond linear thinking. While students may do well in traditional linear learning

and memorisation, the nature of future growth would involve an acceleration of progress, demanding new ways of applying knowledge.
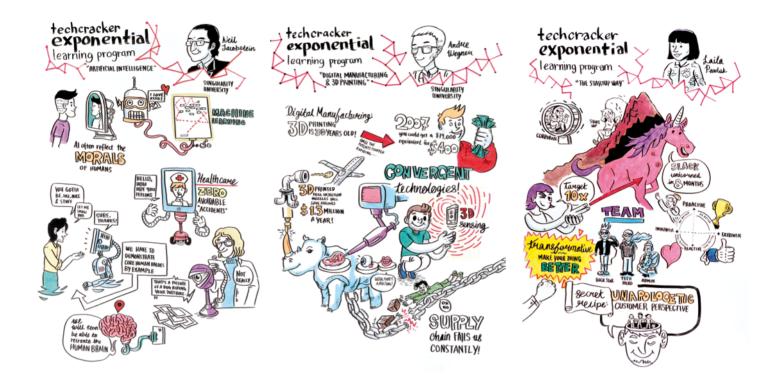
The Foundation hoped the day would help students "expand their minds" and "give a free, quality programme for Hong Kong students" who perhaps couldn't otherwise afford it. LKSF prepared students by asking them to consider, before arriving, questions such as "Would you let a robot drive you to school? Would you let a robot cook all your meals?" and "Would you trust your health exclusively to a robot/AI doctor?" Game-changing technologies, when applied, won't be remote or obscure, but will be a part of daily life. Students designing and using this tech need to think about how it will change people's lives.

The broad range of technologies discussed included digital biology, AI and robotics, digital manufacturing and 3D printing, and more. Students had ample opportunity to engage with the top-notch Singularity University faculty, flown in from Silicon Valley. Those thinkers gave advice that, while welcome, may prove to be easier said than done. Like managers told to

"Would you let a robot drive you to school? Cook your meals?"
Students ponder their place in a near future more science than fiction.

Seeking: 300 solvers and thrivers who have the potential to change our world.

think long term, but driven by quarterly earnings, students often feel they have to sacrifice deep learning when exam pressure hits. But Neil Jacobstein, Co-chair of the Artificial Intelligence and Robotics Track at Singularity University, encouraged them, saying, "Don't just learn to get good grades, but to nurture your critical mind."

Or nurture artificial minds. In his talk on artificial intelligence, he explained to students that they wouldn't just use their own brains to solve problems, but the new paradigm would see them use AI for "pattern recognition techniques to solve practical business and technical application problems".

THE POWER OF EXPONENTIAL TECH
Amin Toufani, Singularity University Vice President, Strategic Relations, spoke on the way exponential technologies are turning economics upside down. He led with some things that university students are interested in: money and tech (Instagram's rise and sale for USD1 billion to Facebook after 18 months), sex and death (the Ashley Madison data breach and suicide), and music, satire and finance (the anti-United Airlines viral musical campaign in reaction to a broken guitar, which caused their market capitalisation to drop by USD150 million). These all show the power

of new technologies to change the world outside the technology sector.

Students seemed to appreciate the interaction and inspiration. One high school student, Liang Hui Lin, from Hong Kong's prestigious Diocesan Girls' School thought the programme gave her "a new way of thinking" and "inspired the innovative side of [my] mind".

Beyond science and engineering, students were also inspired to consider the values that they brought when considering how technology could be used. Participant Mavis Tan of PolyU got the message and says she appreciates how Singularity University "encourages people to think about our own values in life, and the way to contribute to the growth of technology to solve human challenges and to enhance the quality of human life".

Another student, Peng Su, a PhD candidate at The Chinese University of Hong Kong, knew of the Singularity University and was excited about going, posting on his blog, "I have always been curious about Singularity U, this time I have [the] opportunity to get to know them. Thanks [to] the Li Ka Shing Foundation (LKSF) for support!" □

 "... an exciting point in humanity's development when the making of a new world will be possible ..."