



Little Red Dot: Home is where the Heart is



PROF MIAO CHUN YAN

Senior Member, SCS

Director, Joint NTU-UBC Research Centre of Excellence in Active Living for the Elderly (LILY)

Chair, School of Computer Science and Engineering, Nanyang Technological University (NTU)

Age: 51

Favourite Way to Relax: Reading up on human psychology and education

Favourite Places in Singapore: NTU Campus, Botanical Gardens and Jurong Point

Pet Topic for Past 15 Years: Artificial Intelligence

Most Used Singapore Term (Singlish): "OK lah"

Loves to Hear People Say: "Long time no see"

(很久不见) / 子曰: 有朋自远方来, 不亦乐乎?

What makes a place a home? For many, home is where we were born. However, in the increasingly mobile world we live in today, it is common to see professionals leave their places of birth to settle down in cities that offer greater opportunities. Speaking to Prof Miao Chun Yan, who has spent over 20 years living and working away from her birth country – China, *The IT Society* seeks to understand what Singapore means to Prof Miao after all these years.

First impression of Singapore.

Prof Miao: Even before coming to Singapore, I had heard a lot about how Singapore is a garden city and a livable place where people live longer and healthier than many other nations. Singapore enjoys a good reputation as a global hub connecting the East and the West. Numerous international meetings, conferences and exhibitions are held here. Singapore also houses regional headquarters of many leading tech companies and multinational corporations. These factors make Singapore a very attractive place for top talents to research and develop groundbreaking technologies.

First real brush with Singapore.

Prof Miao: In the early 1990s, I was offered an opportunity to work on a collaborative project between the then National Computer Board (NCB) and Trade Development Board. The TradeNet project I worked on was not only the first-of-its-kind in Singapore, but also one of the few in the world at that time. The developed technologies were subsequently transferred to over 50 countries, evidence of Singapore's great capacity for innovation.

Going to school in Singapore.

Prof Miao: My involvement in the TradeNet project and the rapid development of the Internet convinced

me of exciting possibilities in technology. This vision inspired me to enrol in the graduate school. I was fortunate that my PhD supervisor was very supportive of my research work in artificial intelligence (AI) and provided me with a lot of room to explore. My sense then was that the industry, the research community and the government were all working in unison to advance the state of the art. I went on to do my postdoctorate fellowship and taught in universities in Canada before doing my PhD study at Nanyang Technological University (NTU). With all the knowledge and skills gained, I came back to teach at NTU in 2003.



A government-backed digital nation.

Prof Miao: Singapore's government plays a pivotal role in aligning research and development activities, education, manpower training and the economy to realise the ambitious and novel Smart Nation masterplan. In addition to helping businesses digitise their operations, the government is also working closely with schools and the industry to ensure that fundamental technological knowledge and know-how are systematically structured and readily transferrable. I would say that the government's commitment to innovation and the digital economy is one main reason why Singapore is producing the highest density of AI talents in the world.

Passion for Humanised AI – first and foremost.

Prof Miao: For many years, I have been engaged in a variety of AI research projects. In particular, I spend a lot of time studying humanised AI so as to discover how we can inject human-like traits such as curiosity and empathy into the interactions between humans and machines. The potential for this technology, when integrated with smart appliances and homes, is boundless. For the first time in human history, there will be more elderly people than young

children in the global population. The humanised AI enables seniors to age well and gracefully – with a dignified lifestyle at home.

A growing passion that extends beyond AI.

Prof Miao: While technology plays a major role in driving AI development, successful AI research and development work requires a deep understanding of other academic disciplines such as psychology. But that is not all – a good understanding of ethics, law and business can also reveal important perspectives. Due to AI's interdisciplinary nature, I have learnt and greatly benefitted from new insights made possible by research results from other fields.

A teacher but also a collaborator.

Prof Miao: The teaching landscape has changed significantly over the years. Nowadays, information and learning resources are readily available online. Students no longer come to class just to acquire knowledge. As a course instructor and research supervisor, my focus is to inspire, encourage and guide students to devise solutions for complex societal challenges. At the same time, I constantly urge students to enrich their classroom knowledge by applying it to solve real-world problems.

"Good ideas and friendly technologies can empower and enrich ageless ageing"

Co-creation of knowledge – the next wave of education.

Prof Miao: The next wave in the education sector has already arrived. If you come to the NTU campus, you will see that the university has close research and development collaborations with many companies. Although a solid understanding of theories is important, it is arguably even more important to learn how to apply them in tackling real-life challenges. Students who are able to do so will enjoy rewarding and successful careers.

Singapore is our home.

Prof Miao: Singapore is where my family and I share our most precious memories. We live on the beautiful NTU garden campus. As parents, we are glad that our children are able to benefit from a world-class education in Singapore. 2019 marks Singapore's bicentennial and it is an auspicious time for everyone who treasures this Little Red Dot to reflect on its rich history, culture and values.

SINGAPORE TOPS ASIA PACIFIC IN THE GLOBAL TALENT COMPETITIVENESS INDEX (GTCI) 2018



>42,000

Tech professionals wanted by 2020



For jobs in

- Artificial Intelligence (AI)
- Cybersecurity
- Internet of Things (IoT)

What is Singapore Doing Right?



- Educational system built on employability
- Flexible regulatory and business landscape
- Employment policies combining flexibility and social protection
- External and internal openness

What are Singapore Companies Doing Right?



- Promote meritocracy
- Invest in training and digital upskilling
- Invest in technology
- Create a culture of mobility and diversity

Track Record

1st in Access to Startup Talent

Global Startup Ecosystem Report 2017

2nd in Talent Competitiveness

Global Talent Competitiveness Index 2018

Sources:

Global Startup Ecosystem Report 2017 by Startup Genome;

Global Talent Competitiveness Index 2018 by INSEAD, The Adecco Group and Tata Communications;

TODAY: 42,000 IT professionals needed over next 3 years