

# The hottest profession

## Out of the Box

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**WHAT IS THE** hottest category of jobs right now in the global market – jobs that pay extremely well, that are in high demand by employers in multiple sectors, and have very limited supply of talents?

It may surprise many that it is not one of Hong Kong's usual most coveted professions: doctors, investment bankers, or corporate lawyers.

Actually, it is a profession that in recent years has been one of the least popular in Hong Kong: science and technology – or more precisely, artificial intelligence.

The *New York Times* reported recently that “typical AI specialists, including both PhDs fresh out of school and people with less education and just a few years of experience, can be paid from US\$300,000 (HK\$2.34 million) to US\$500,000 a year or more in salary and company stock ... Well-known names in the AI field have received compensation in salary and shares in

a company's stock that total single- or double-digit millions over a four- or five-year period.”

Part of the reason for this phenomenon is huge demand. Many large tech companies (for example, Amazon, Google, Microsoft, Alibaba, Baidu, Tencent,) are betting big money on AI.

They see that AI-based business will drive growth and competitiveness. They are venturing into fields that are traditionally not in their domain of expertise: autonomous robots, self-driving vehicles, extracting usable information from their huge customer databases, etc.

They are all looking for talent at the same time.

The flip side is a very limited supply. AI has not always been favored even within tech circles.

When I was studying AI as a PhD student at Stanford over 40 years ago, AI was new and hot and had ample funding from the US government (especially by the Defense Department). But over-promise, and lack of real impact had turned this fervor into total disinterest, leading to an “AI winter” with little funding or interest.

As recently as five to 10 years ago, there was still enough skepticism that the leading gurus of today could not get funding or their papers published.

But the more recent “perfect storm” of smarter algorithms, abundance of data, and ever-faster computers has suddenly enabled AI to make spectacular advances (eg, AlphaGo's success), and the hype has driven many into this field. As in most fields

of science and technology, training real talents takes substantial technical background (which most people don't have, such as mathematics) and time (a typical PhD takes four to six years).

The *Times* estimated that the talent pool worldwide is less than 10,000.

This AI race is global, with the United States and China leading the pack. In AI, the former has traditionally been the source of revolutionary ideas and the magnet and training ground for worldwide talents. But China has the ambition to not only catch up with but overtake the United States.

Baidu has had an R&D lab in Silicon Valley for several years now, which I visited before, and recently the company and Tencent have opened new labs in Seattle.



**SenseTime co-founder Xu Chiheng demonstrates his company's surveillance software.** REUTERS

Talent movement in AI is also global.

Recent examples include Google's purchase of DeepMind in London, Baidu's recruitment of Andrew Ng as well as, from Microsoft, Qi Lu and Zhang Yaquin, and Apple's hiring of the head of AI from Google. Amazon is opening up a lab outside Caltech.

Toronto and Montreal are AI hotbeds because of spin-offs from a few key AI faculties. This is the modern version of the “race to the moon.”

Is Hong Kong ready to take part in the race? It may surprise many that our AI research is ranked in the top 10 globally by a recent survey of publications and citations.

The SAR's first unicorn, SenseTime, specializes in AI and was founded by Chinese University professors and students; it just received another round of venture capitalist funding which values the company at US\$3 billion.

Close by in Shenzhen are headquarters of Tencent and Huawei, who are making big bets in AI and ready to hire Hong Kong's talents.

Our chief executive, in her recent budget request, is asking the Legislative Council for HK\$40 billion for innovation and technology (including AI/robotics).

Entrepreneurship is becoming more acceptable among young people and conditions for starting something new have become more favorable than in recent memory.

Better late than never!