

## What is stopping more Singaporeans from taking up tech jobs?

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**Tech** jobs seem to be all the rage, so what is **stopping** more **Singaporeans** from **taking** them up?

Monetary Authority of Singapore managing director Ravi Menon said at a recent webinar that **Singaporeans** accounted for about 35 per cent of **tech** jobs, and 35 per cent of net **tech** jobs created in the past five years in banking and finance.

One challenge could be in having the right skills.

Talent development company Job**Tech** looked at job posts for business analysts, data scientists and UI/UX (user interface/experience) roles in the infocomm **technology** (ICT) and banking and finance sectors and compared these with profiles of students and jobseekers - both local and foreign - to see how well their skills fit what employers wanted.

These sectors were tops in terms of total job demand last year, said Job**Tech** data scientist Tan Jur Huang.

The firm found that in the ICT sector, from 2018 to last year, the gap in skills fit between foreigners and locals widened slightly, from 5 per cent to 7 per cent, with foreigners in the lead. In banking and finance, the gap in skills fit between foreigners and locals stayed constant at around 5 per cent.

Highlighting some specific skills in demand, Mr Tan noted that in ICT, locals still lack more in-depth science expertise like deep learning.

In banking and finance, job requirements for business analysts have shifted from mastery of data visualisation software and having banking and financial services knowledge towards programming skills, where more foreigners are better skilled, he added.

Other reasons for the low proportion of **Singaporeans** in **tech** jobs could be the relatively higher cost of labour here and limited number of ICT graduates from local institutions, said Nanyang **Technological** University (NTU) associate professor of information **technology** Damien Joseph.

Mr Menon noted in the webinar that the number of unfilled **tech** jobs across the economy is an estimated 19,000 each year, but undergraduate enrolment for ICT across the six autonomous universities was just 2,800 last year. Another 4,500 ICT students graduate from poly**technics** and the Institute of **Technical** Education each year.

Many engineering and science graduates who could also fill **technology** jobs go on to non-**tech** jobs instead, added Mr Menon.

With efforts under way by the Government and private sector to help match **Singaporeans** to **tech** and equip them with the right skills, how can individuals better prepare themselves for **tech** careers? Here are some tips:

## 1. Take modular courses or double degrees

Learners and jobseekers are increasingly expected to be multi-disciplinary, said Singapore University of Social Sciences senior lecturer in human resource management, Dr Millie Su Yun.

For instance, **tech** professionals who used to major in computer science have to apply those skills in finance, product development or marketing, she said.

One way for working adults to pick up skills in multiple domains is to take modular courses.

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Prof Joseph noted that the short shelf life of **technology** skills implies the need to choose the right **tech** knowledge and skills to invest in and also to set aside spare capacity for continuous learning.

Micro-credentialing may be one way to hedge on competencies, such as through NTU's MiniMaster courses in business analytics and data science, he said.

Students could consider double degrees.

NTU has a double-degree programme in business and computing and a new double degree in accountancy and data science and artificial intelligence (AI).

The National University of Singapore also offers double-degree programmes in computer science and information systems, together with business administration (including accountancy).

Both mid-career switchers and students can look for on-the-job training opportunities, such as internships, work attachments and work-study programmes, to pick up industry-relevant skills quickly.

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## 2. Keep hard skills updated

Mr Wong Wai Meng, chairman of trade association SGTech, said the top five areas of skills in demand in ICT are cyber security, cloud computing, product development or management, software development, and AI and machine learning.

Meanwhile, for **tech** jobs in banking and finance, four key attributes are having a science, **technology** engineering, mathematics background; fundamental programming skills; business domain knowledge and overseas exposure, said Institute of Banking and Finance Singapore chief executive Ng Nam Seng.

Be prepared to invest in learning as a key part of working life.

This is especially important for **tech**-related roles since **technology** evolves so quickly.

## 3. Work on soft skills, too

Roles in high demand such as software engineers and product owners require creativity when it comes to designing platforms and user journeys, besides just fundamental programming skills, said recruitment firm Randstad Singapore senior director for **technology** Daljit Sall.

Mr Wong said learning agility and problem-solving are some soft skills needed for ICT **jobs**.

"These are often blind spots that are important to employers but may not be naturally apparent to jobseekers," he added.

4. Consider your options carefully before jumping in

**Tech** careers are trendy, but do not just chase trends, said Mr Wong.

He said that Singaporean career switchers sometimes pursue deep-**tech** training programmes, such as data science, without a strong understanding of the commitment and prerequisites that are needed to do well in these fields.

They may then realise that they are either not a good fit for the role or that the training provided also was insufficient to prepare them for the requirements of the job.

"We usually encourage career switchers to first take the time to understand their own strengths and skills, research the sector and job roles they want and find roles that allow them to tap as many of their transferable skills and experience as possible," said Mr Wong. "For example, a traditional sales person could transition to digital sales or marketing role more easily than to software engineering. There will always be exceptions but this is a reasonable approach for most."

He suggested seeking coaching support and guidance, especially from people with relevant experience in the industry.

There are also free schemes supported by Workforce Singapore such as volunteer career advisers, career preparatory workshops and career support groups.

Programmes for job seekers, students

How to join the **tech** sector

- Professional conversion programmes: For professionals, managers, executives and **technicians** without prior work experience in the sector to pick up new skills and move into jobs in emerging or growing functions.
- SkillsFuture work-study programmes: Lead to certification offered by institutes of higher learning, private providers appointed by SkillsFuture Singapore, as well as the industry.
- Company-Led Training programme: On-the-job training aligned to the Skills Framework for ICT (information and communications **technology**).
- TeSA Mid-Career Advance: Job placement and training for **Singaporeans** aged 40 and above entering in-demand **tech** roles.
- **Tech** Immersion and Placement Programme: Subsidised boot camp-like training for in-demand entry level **tech** roles. Participants are required to find placements in **tech** job roles after the training.
- SGUnited Traineeships Programme: Company-hosted traineeships for fresh graduates.
- SGUnited Mid-Career Pathways Programme: Company-hosted attachments for mid-career workers.

How to join the financial sector

- MAS Work-Study Support Programme: Funds 80 per cent of internship stipend, capped at \$1,000 per month, for Singaporean undergraduates interning at financial institutions under the SkillsFuture Work-Study Degree Programme.

- Professional conversion programme for financial services.
- **Tech**nology in Finance Immersion Programme: Full-time structured training and attachment to help mid-careerists pivot into key **tech** areas in financial sector.
- IBF Careers Connect: Career advisory services for those who are keen to join the financial sector virtual job fairs.
- SGUnited Traineeships Programme.
- SGUnited Mid-career Pathways Programme



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