Hong Kong's AI Talent Market: Structural Mismatches Between Supply and Industry Demand

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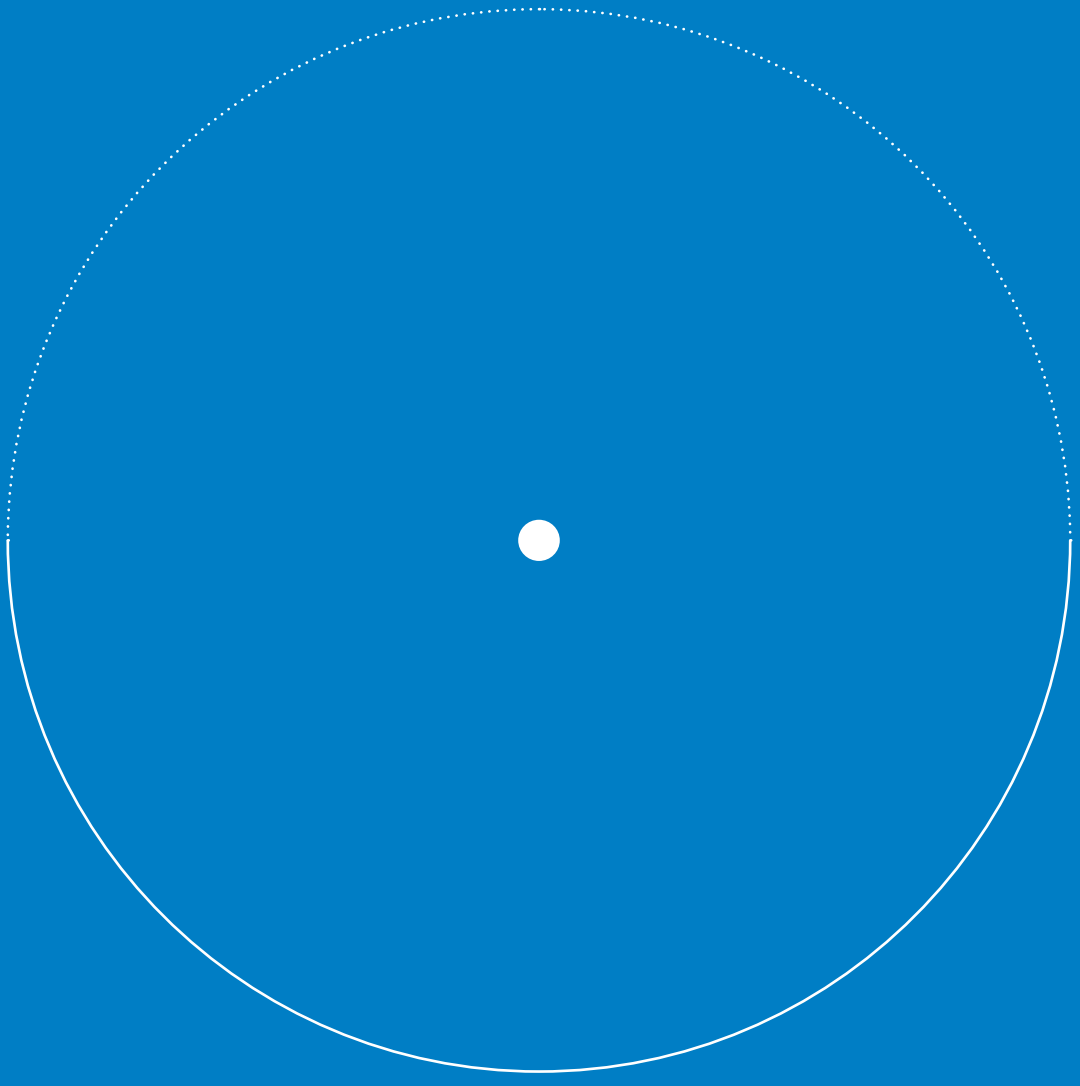
Contents

Brief Summary



Hong Kong's AI talent challenge is not a shortage. It is a structural mismatch.

This study examines whether Hong Kong's AI talent supply matches industry demand. It combines two datasets. On the supply side, it uses a ten-year LinkedIn-based dataset covering more than 25,000 AI professionals with work experience in Hong Kong. On the demand side, it analyzes more than 1,800 recent AI-related job postings from Jobsdb.

The evidence shows that Hong Kong has built a sizable and growing AI workforce over the past decade. However, the main market problem is not talent quantity. It is matching quality.

This report identifies **three structural mismatches** in Hong Kong's AI talent market.

First, there is an **experience mismatch**. Recent talent inflows are concentrated at junior levels, while much of employer demand is for experienced professionals who can lead AI implementation.

Second, there is a **skills mismatch**. Many AI professionals have strong core technical skills. However, firms often need applied capability, including business integration, industry knowledge, and deployment experience.

Third, there is an **ecosystem mismatch**. Much of Hong Kong's technical AI capacity sits in startups and innovation hubs, while much of business demand comes from traditional industries such as finance and logistics. These parts of the ecosystem are not connected closely enough.

As a result, the main challenge in Hong Kong's AI talent market is not the overall number of AI professionals. It is whether the available talent matches employer needs in experience, applied capability, and industry fit.

Key Findings

1. Experience Mismatch in the AI Talent Pipeline

The employment rate of AI talent in Hong Kong remains relatively high. However, the overall figure hides structural frictions in the labor market.

Recent inflows of AI professionals are concentrated at junior and early mid-career levels. In contrast, many firms, especially in traditional industries, seek experienced professionals who can lead implementation and manage applied AI projects.

This creates a clear experience mismatch. Firms often struggle to find practitioners with sufficient experience in deploying AI systems in real business environments.

2. Skills Mismatch Between Technical Skills and Business Needs

Hong Kong's AI talent pool shows strong core technical capability. Many professionals report skills in areas such as machine learning and deep learning.

However, firms often require more than technical knowledge. They need professionals who can translate AI techniques into business solutions, work with internal teams, and operate within regulatory and operational constraints.

Some incoming professionals also lack familiarity with local industry practices. As a result, technical capability does not always translate into immediate implementation capacity.

3. Ecosystem Mismatch Between AI Development and AI Deployment

AI adoption in Hong Kong is driven mainly by traditional industries such as finance and logistics. These sectors account for more than 70% of AI hiring demand. Their demand is largely application-oriented rather than research-focused.

At the same time, much of Hong Kong's AI development activity is concentrated in startups and early-stage technology firms. These firms focus on technical development and innovation.

As a result, AI development and AI deployment often sit in different parts of the ecosystem. Technical capability is not always connected directly to large-scale business use cases, data, and implementation budgets.

Recommendations

The findings suggest that Hong Kong's AI talent challenge is primarily a problem of **mismatch rather than talent shortage**. The following recommendations aim to improve the alignment between talent supply and industry demand.

1. Expand the Senior AI Talent Pipeline

Hong Kong faces a shortage of experienced practitioners who can lead AI implementation projects. Talent attraction programs should place greater emphasis on professionals with applied experience.

At the same time, structured development programs should help mid-level professionals gain implementation experience and progress into senior roles.

2. Strengthen Applied AI Capability

Many AI professionals have strong technical skills, but firms often need applied capability that combines technical knowledge with business understanding.

Training and professional development programs should place greater emphasis on real-world deployment, including industry workflows, system integration, and regulatory requirements.

3. Bridge AI Development and Industry Adoption

Hong Kong's AI ecosystem remains divided between technical development and business deployment.

Policies that encourage collaboration between AI firms and traditional industries can help connect technical capability with real business use cases. Joint projects, pilot programs, and industry partnerships can accelerate AI adoption.

Background

Artificial intelligence is reshaping industries around the world. As a result, AI talent has become an important driver of economic development and technological competitiveness. In Hong Kong, policy attention has gradually shifted from building research capacity to promoting the practical use of AI across different sectors.

In the 2025 Policy Address, the Hong Kong Government identified artificial intelligence as a strategic industry for future growth and emphasized both technology development and practical application across sectors.[1] The government also announced new investments to strengthen research capability, digital infrastructure, and international talent attraction. Recent initiatives include support for AI research, expanded computing infrastructure, and cross-boundary collaboration. Together, these measures aim to position Hong Kong as a regional hub for AI development.

Talent policy plays a central role in this strategy. This direction is also consistent with the Hong Kong Innovation and Technology Development Blueprint, which identifies talent development and the expansion of the I&T talent pool as key policy priorities.[2] In recent years, Hong Kong has introduced and expanded a series of talent admission measures, including the Top Talent Pass Scheme (TTPS)[3], to attract high-skilled professionals. As a result, Hong Kong's AI workforce has grown rapidly over the past decade and has become increasingly international.

However, the success of this expansion cannot be measured by talent numbers alone. AI adoption in Hong Kong is largely driven by traditional industries. These sectors require professionals with practical implementation experience and industry knowledge.

The key policy question is therefore whether the structure of the AI talent pool matches real market demand. Issues such as skill composition, experience levels, industry alignment, and the integration of incoming talent all affect how effectively AI capability translates into economic impact.

This report examines these issues by comparing the supply of AI talent with hiring demand in Hong Kong.

[1] The Chief Executive's 2025 Policy Address: https://www.policyaddress.gov.hk/2025/en/policy.html
[2] Hong Kong Innovation and Technology Development Blueprint: https://www.itib.gov.hk/en/publications/I%26T%20Blueprint%20Book_EN_single_Digital.pdf
[3] https://www.immd.gov.hk/eng/useful_information/admission-schemes-talents-professionals-entrepreneurs.html

Methodology

This study analyzes Hong Kong's AI talent market from both the supply side and the demand side. The supply-side analysis focuses on the structure and evolution of the AI workforce. The demand-side analysis examines hiring demand using recent job posting data.

Supply-Side: Defining and Identifying AI Talent

The supply-side dataset comes from Revelio Labs[4], which aggregates professional profile data from online platforms such as LinkedIn. The dataset covers professionals who have worked in Hong Kong between 2015 and 2025.

AI talent is identified using a skill-based definition. Professionals are classified as AI talent if their profiles include skills related to areas such as machine learning, deep learning, data science, and data engineering. After cleaning and filtering the dataset, the analysis identifies more than 25,000 AI professionals associated with Hong Kong.

The supply-side analysis examines three aspects of the talent pool: workforce profile, talent mobility, and employment outcomes. The profile analysis describes the distribution of AI skills, industry sectors, education background, and seniority levels. The mobility analysis tracks inflows and outflows of AI professionals across countries and seniority levels. The employment analysis measures whether professionals hold active positions in Hong Kong, allowing the employment rate of AI talent to be estimated over time.

Demand-Side: Analyzing Market Needs

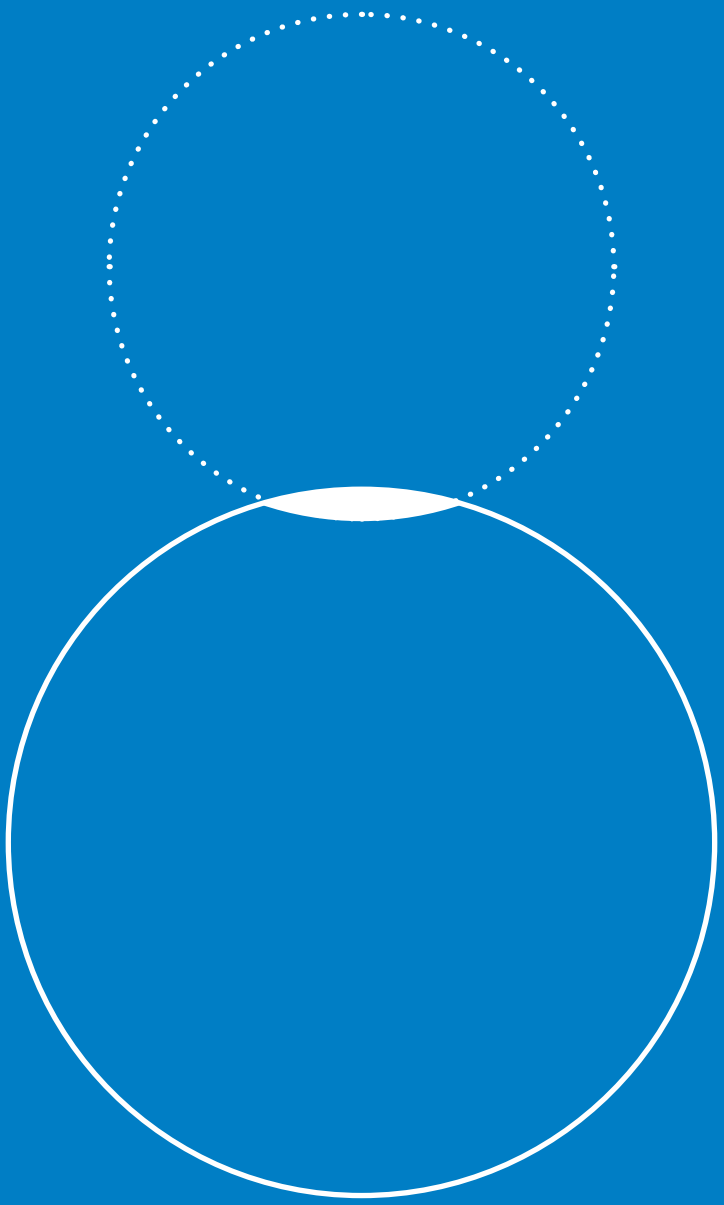
The dataset includes 1,848 AI-related vacancies collected as of November 2025. It provides a snapshot of hiring demand for AI talent in Hong Kong. It results should therefore be interpreted as a market snapshot rather than a long-term trend measure.

Job postings are processed to extract structured information on required skills, experience levels, firm type, and job location. Firms are classified into two categories: AI R&D firms whose core business focuses on AI development, and non-AI firms in traditional industries that apply AI in business operations.

To make experience requirements comparable across postings, job ads are standardized into a seven-level seniority scale. The analysis then examines the structure of AI job roles, skill requirements across firms, experience requirements across seniority levels, and the geographic distribution of AI firms in Hong Kong.

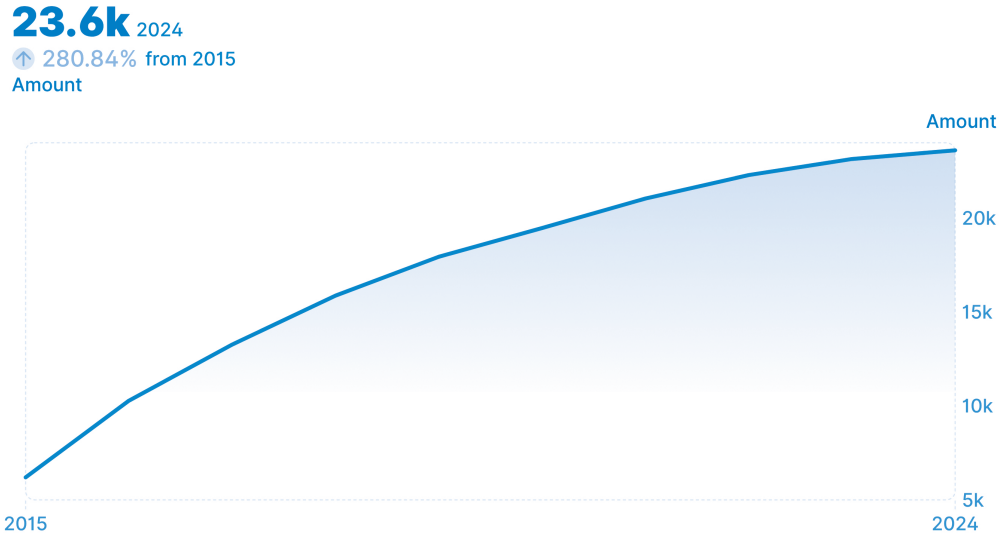
[4] Revelio Labs: https://wrds-www.wharton.upenn.edu/pages/about/data-vendors/revelio-labs/

Findings



Hong Kong's AI talent pool has expanded rapidly over the past decade. The number of professionals with AI-related skills increased from a small base in 2015 to about 23,600 in 2024 (Figure 1). This represents a growth of more than 280% during the period.

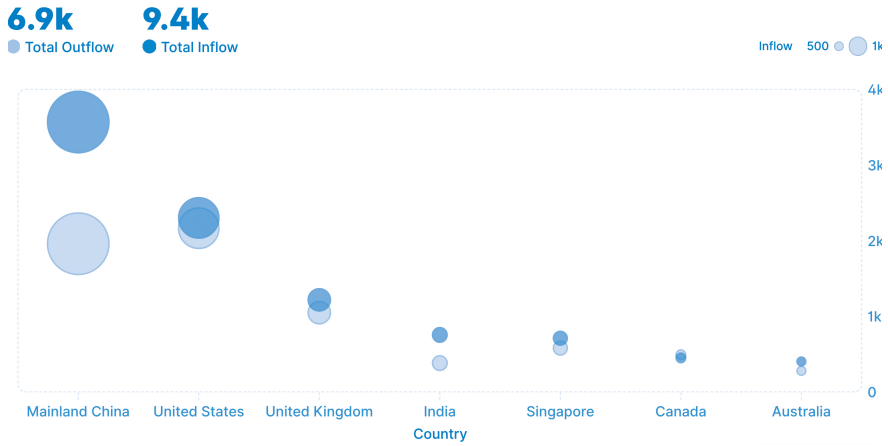
Figure 1. Growth of Hong Kong's AI Talent Pool (Past 10 Years)



Hong Kong continues to attract AI professionals from overseas, with a clear net inflow recorded over the past decade. A large share of incoming professionals come from Mainland China, followed by the United States and the United Kingdom (Figure 2). The AI Index Report 2025 notes that the United States leads in producing frontier AI models, while China is rapidly closing the performance gap[5]. Talent inflows from these economies help Hong Kong learn from global AI leaders and support the development of its own AI ecosystem.

Recent official indicators also suggest that Hong Kong's broader talent attraction efforts have strengthened, with the city returning to the global top 10 in the IMD World Talent Ranking 2024[6].

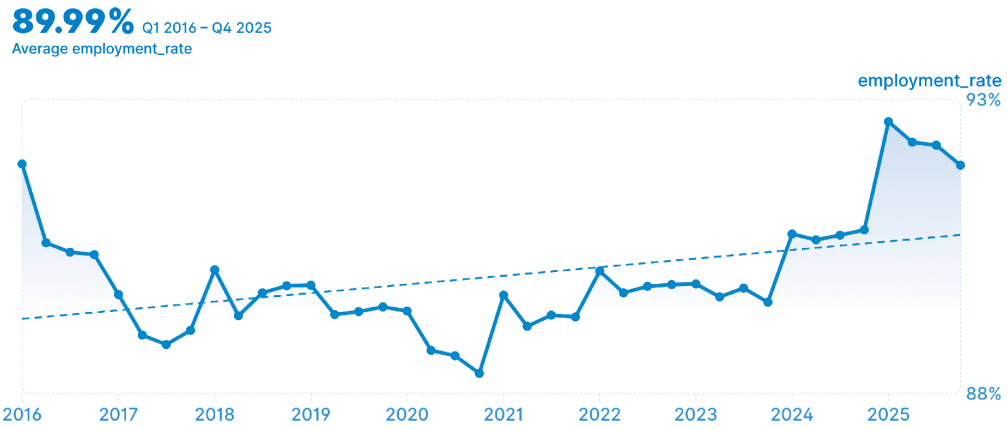
Figure 2. AI Talent Flows by Country: Inflows and Outflows (Past 10 Years)



[5] The 2025 AI Index Report: https://hai.stanford.edu/ai-index/2025-ai-index-report
[6] Hong Kong soars in World Talent Ranking 2024: https://www.info.gov.hk/gia/general/202409/19/P2024091900285.htm

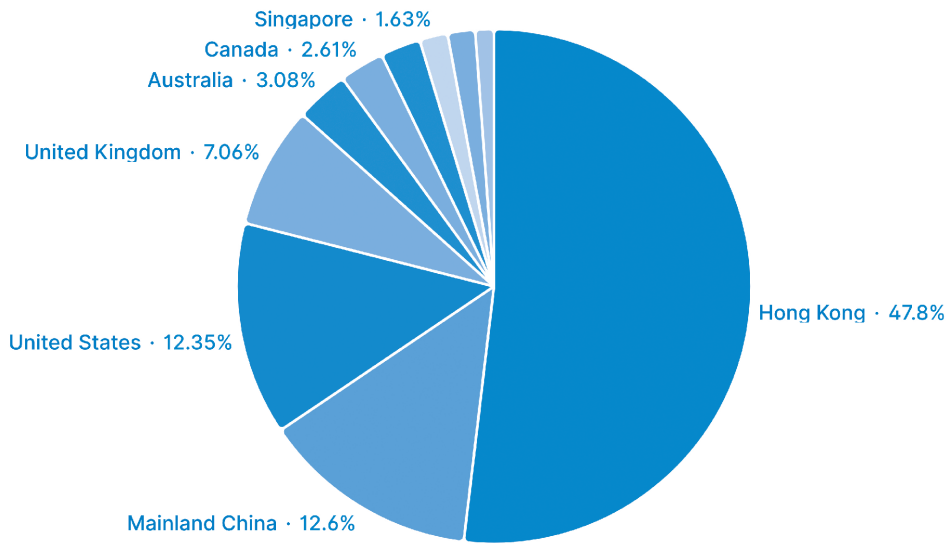
At the same time, employment outcomes remain relatively strong. The employment rate of AI professionals has stayed close to 90% in recent years and shows a stable upward trend over time (Figure 3).

Figure 3. Quarterly Employment Rate of AI Talent (Past 10 Years)



When focusing on the education experience of AI talent, Hong Kong stands out as the main education location in this sample. Among records with identifiable country or region information, Hong Kong accounts for 47.8% of the total, well ahead of Mainland China (12.6%), the United States (12.4%), and the United Kingdom (7.1%).

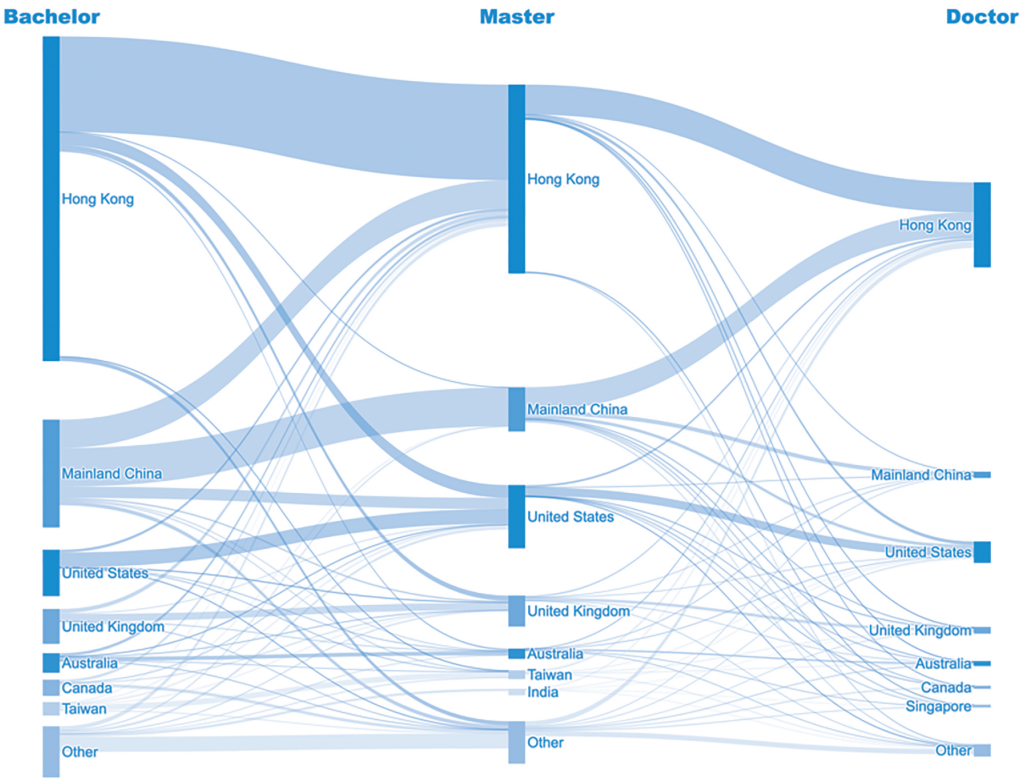
Figure 4. Distribution of Education Records (record-based; excludes Unknown)



Looking beyond the overall distribution of education locations, this pathway view shows how AI talent move across locations over the course of their studies. Hong Kong remains the dominant hub at every stage, accounting for 53.0% of bachelor's, 47.8% of master's, and 59.7% of doctoral education (Figure 5).

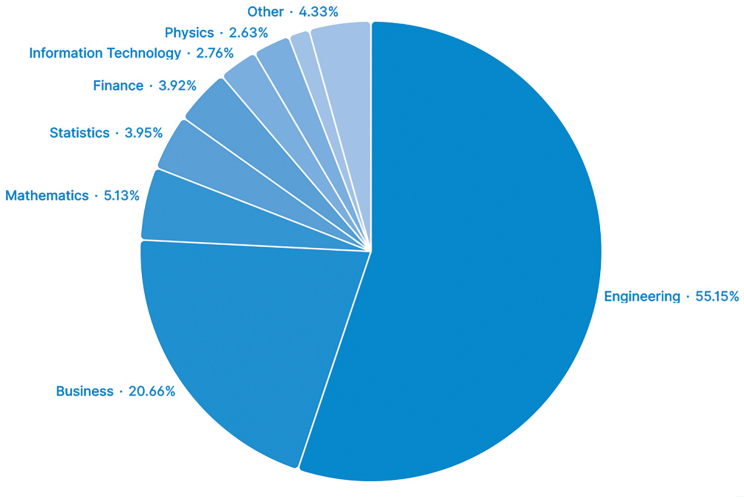
The most common transition is Hong Kong-to-Hong Kong, which represents 33.5% of all Bachelor-to-Master flows and 26.6% of all Master-to-Doctor flows. Mainland China-to-Hong Kong is the most notable cross-border route, accounting for 9.9% of Bachelor-to-Master transitions and 21.0% of Master-to-Doctor transitions (Figure 5). Blank space within a stage indicates users who did not progress to the next degree level.

Figure 5. Education Pathways of Hong Kong AI Talent (excludes Unknown)



Within the Hong Kong subgroup, Engineering dominates the subject mix at 55.2%, followed by Business at 20.7%. Mathematics, Statistics, and Finance account for smaller but still visible shares. Overall, Hong Kong education experience is concentrated in engineering, business, and quantitative fields (Figure 6).

Figure 6. Subject Distribution within Hong Kong Education Experience

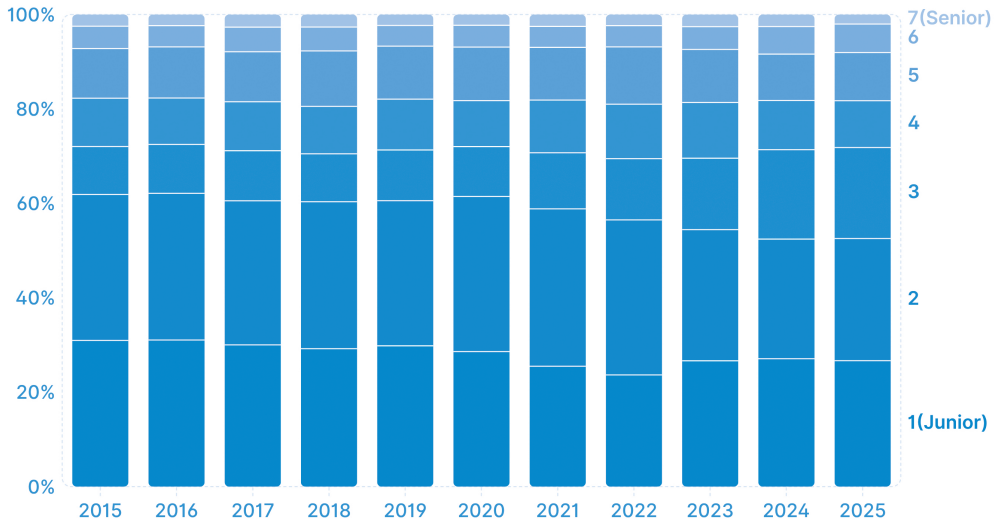


These indicators suggest that Hong Kong has built a sizeable and active AI talent market. However, a closer examination of the data reveals several structural patterns within the labor market. The following sections examine three key structural dynamics shaping Hong Kong's AI talent ecosystem.

1. Experience Mismatch in the AI Talent Pipeline

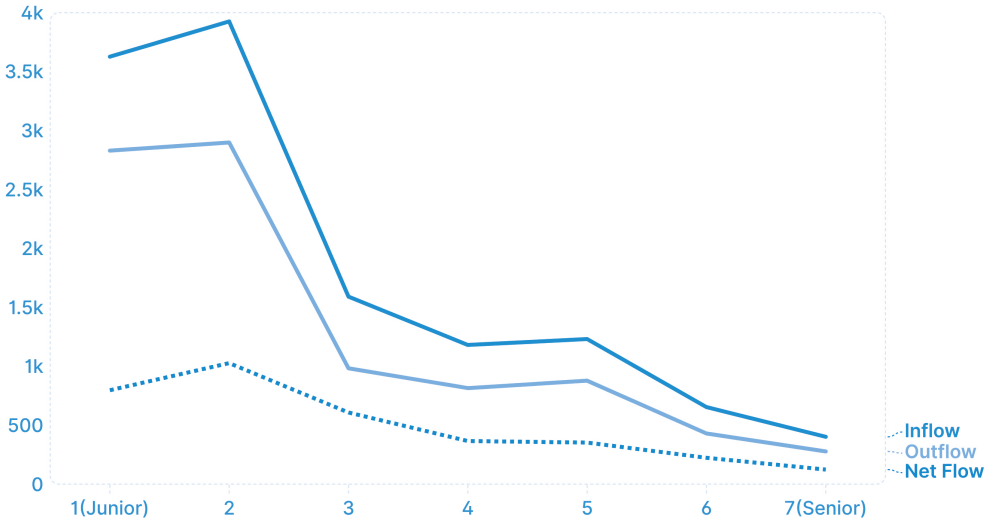
Hong Kong's AI workforce has grown rapidly over the past decade. However, the experience structure of the talent pool is uneven. Most AI professionals are concentrated at junior and mid-career levels, while the share of senior practitioners remains relatively small (Figure 7).

Figure 7. Seniority Structure of AI Talent in Hong Kong (2015-2025)



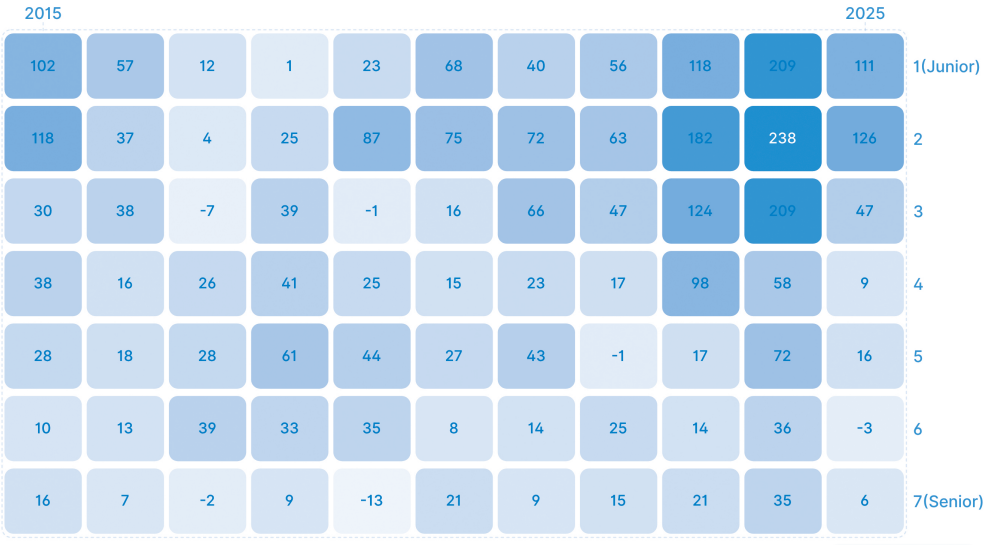
This structure is partly shaped by recent talent inflows. Hong Kong attracts many AI professionals at the early stages of their careers. Most inflows occur at Levels 1 and 2, while inflows become much smaller at higher seniority levels (Figure 8).

Figure 8. AI Talent Flows by Seniority Level in Hong Kong (Past 10 Years)



As a result, most new additions to the workforce are relatively junior. Net inflow data shows the same trend. The growth of the AI talent pool is mainly driven by junior and early mid-career professionals, while the inflow of experienced practitioners remains limited (Figure 9).

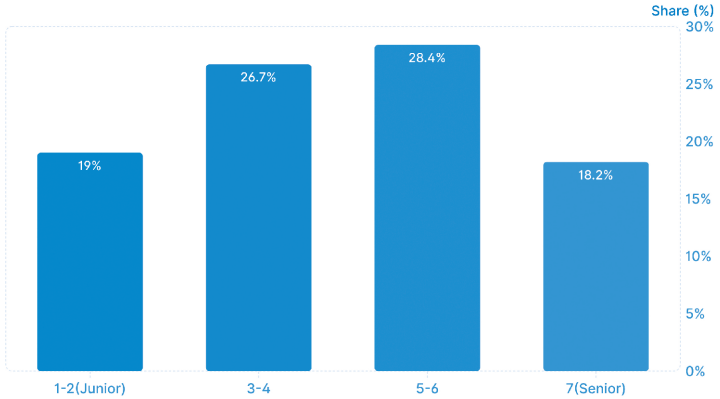
Figure 9. Net Inflow of AI Talent by Seniority Level (2015-2025)



This trend becomes more pronounced after 2022. Figure 6 shows a clear increase in junior and mid-level inflows in 2023 and 2024. This coincides with a series of talent admission measures introduced since 2022, including the Top Talent Pass Scheme (TTPS), which have brought in many overseas professionals[7]. This has likely reinforced the junior-heavy structure of the AI talent pipeline.

However, employer demand follows a different pattern. Only 19% of AI job postings target junior candidates. Most vacancies require several years of experience, and many roles fall between Levels 3 and 6 (Figure 10).

Figure 10. Seniority Requirements in AI Job Postings



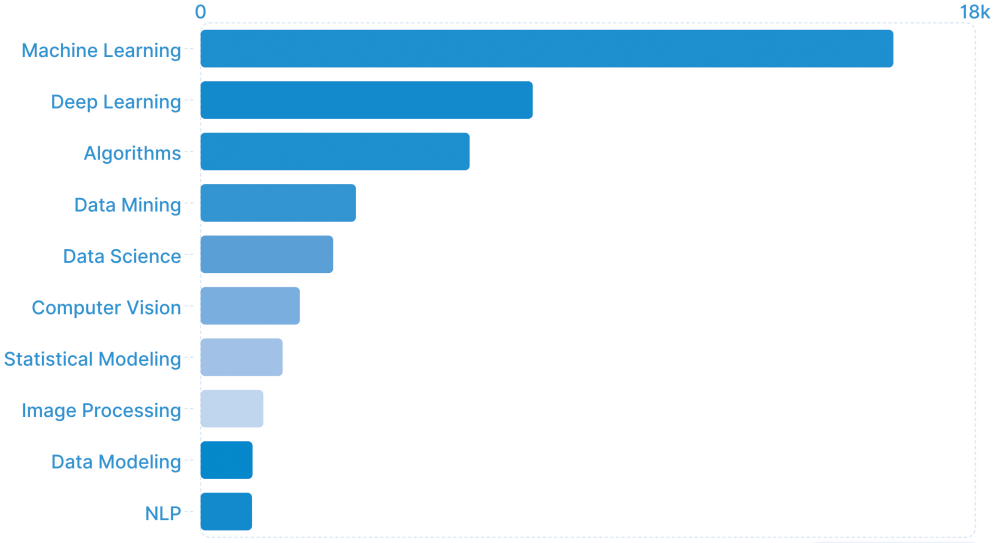
Because of this difference between supply and demand, a gap appears in the talent pipeline. The employment rate of AI talent in Hong Kong remains relatively high, but the overall figure hides structural frictions in the labor market. Firms often seek experienced professionals who can lead AI implementation and manage applied AI projects, while most new entrants are still at early career stages. This creates a clear experience mismatch in the AI talent market.

2. Skills Mismatch Between Technical Skills and Business Needs

The skill profile of AI talent in Hong Kong is strongly technical. As shown in Figure 11, machine learning is the most common skill among AI professionals. Deep learning and algorithms are also widely reported. Other skills appear much less frequently. This pattern shows that the talent pool is mainly built around core technical capabilities.

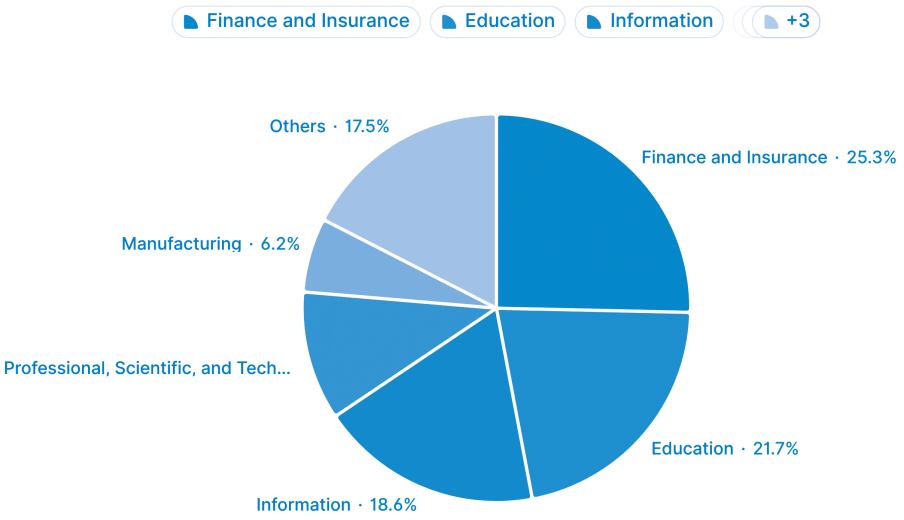
[7] Around 10,000 talents have come to Hong Kong through various schemes: https://www.news.gov.hk/chi/2024/04/20240430/20240430_102032_449.html

Figure 11. Top AI Skills Among Professionals in Hong Kong (by Mentions)



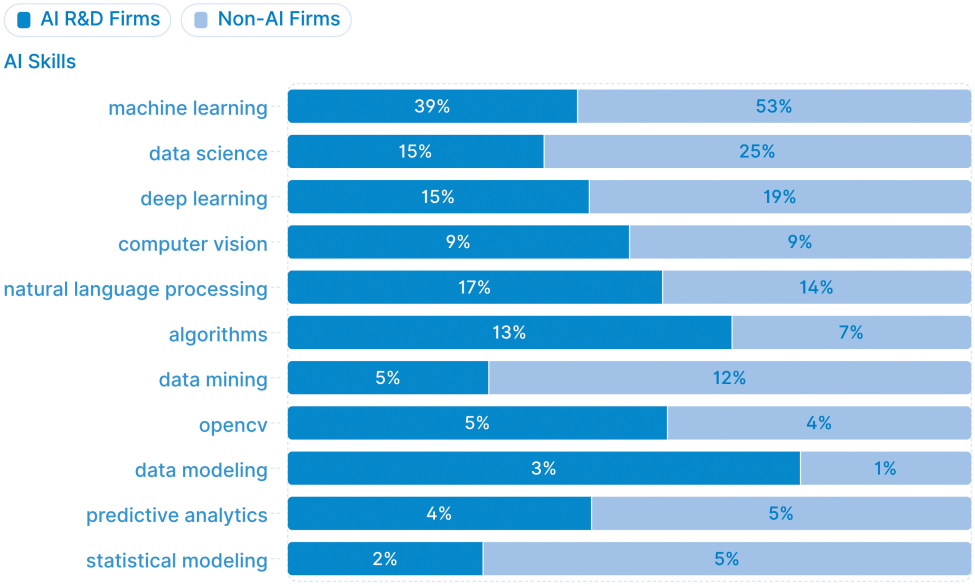
These technical skills are widely distributed across industries. AI professionals work in sectors such as finance, education, and information services (Figure 12). This shows that AI talent is already embedded in sectors where firms need practical and business-oriented use of AI.

Figure 12. Industry Distribution of AI Talent (Past 10 Years)



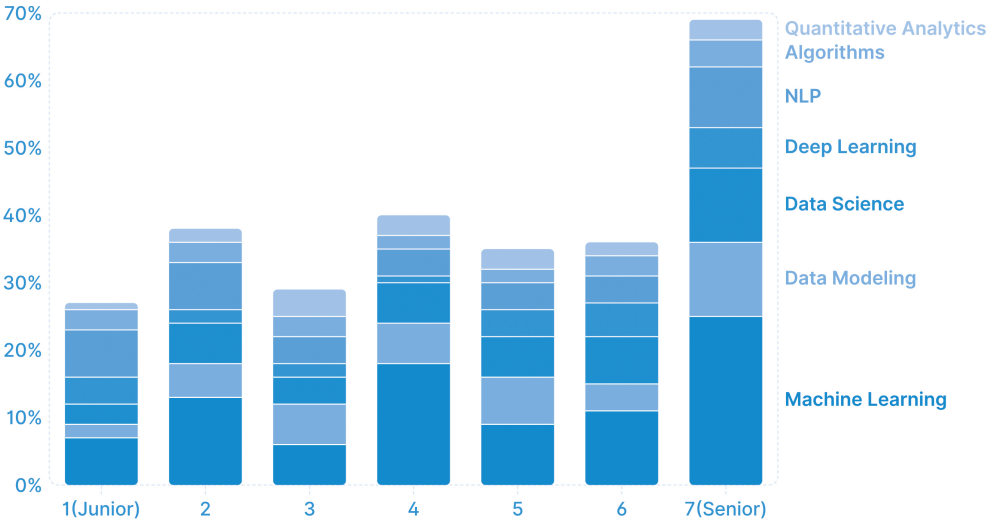
However, employer demand often focuses on applied capabilities. As shown in Figure 13, many firms request skills related to data science, data mining, and practical analytics. These skills appear more frequently in non-AI firms than in AI R&D firms. This suggests that many companies are using AI mainly to support business applications.

Figure 13. Skill Demand in AI R&D Firms vs Non-AI Firms



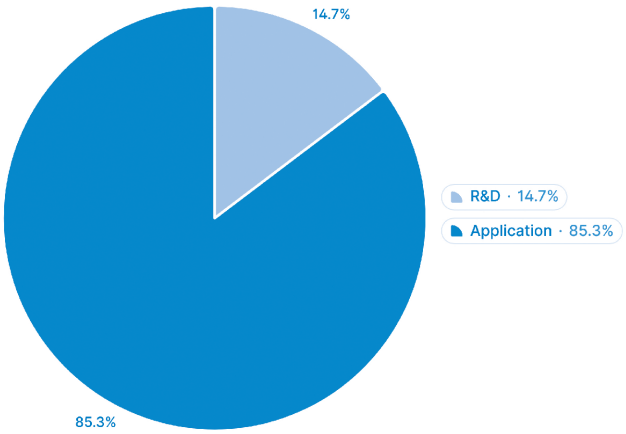
Skill requirements also change as experience increases. As shown in Figure 14, senior roles require a broader mix of skills. These positions often combine machine learning with data analysis and application development. This indicates that firms expect experienced professionals to integrate AI techniques into real business systems.

Figure 14. Top AI Skills by Seniority in Recent Job Postings



This pattern is also reflected in the types of roles firms are hiring. Most AI vacancies in Hong Kong focus on application roles rather than core research positions (Figure 15). As a result, many firms are looking for professionals who can translate technical knowledge into practical solutions.

Figure 15. Distribution of AI Job Postings: R&D vs Application Roles

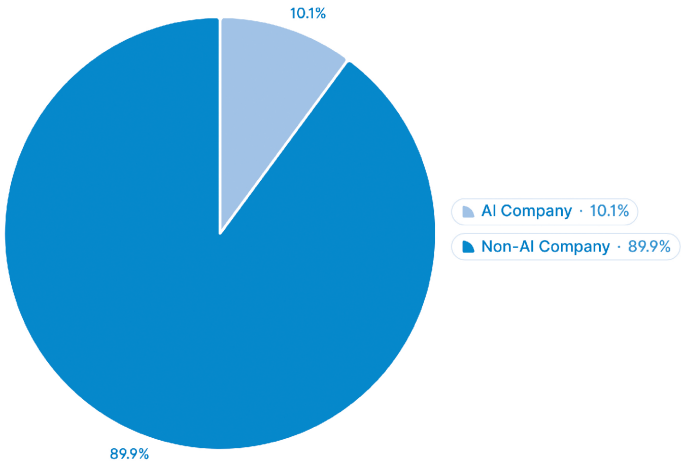


Together, these patterns point to a skills mismatch. Many AI professionals have strong technical skills, but firms often need applied capability that combines technical knowledge with business understanding and deployment experience.

3. Ecosystem Mismatch Between AI Development and AI Deployment

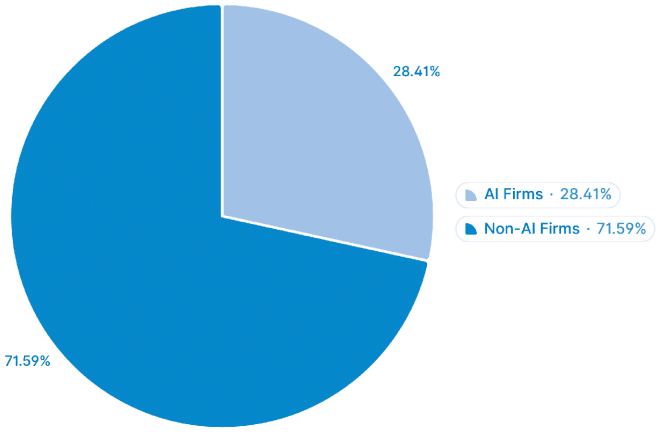
AI adoption in Hong Kong is driven largely by traditional industries rather than AI companies. As shown in Figure 16, nearly 90% of AI job postings come from non-AI firms. Only a small share of demand originates from companies whose core business is AI development.

Figure 16. Job Postings by Firm Type



This pattern remains even when focusing on AI R&D roles. More than 70% of these positions are still offered by non-AI companies (Figure 17). Many of these firms are large and established enterprises. They operate in sectors such as finance, logistics, and professional services. These industries hold many real business scenarios where AI can be applied.

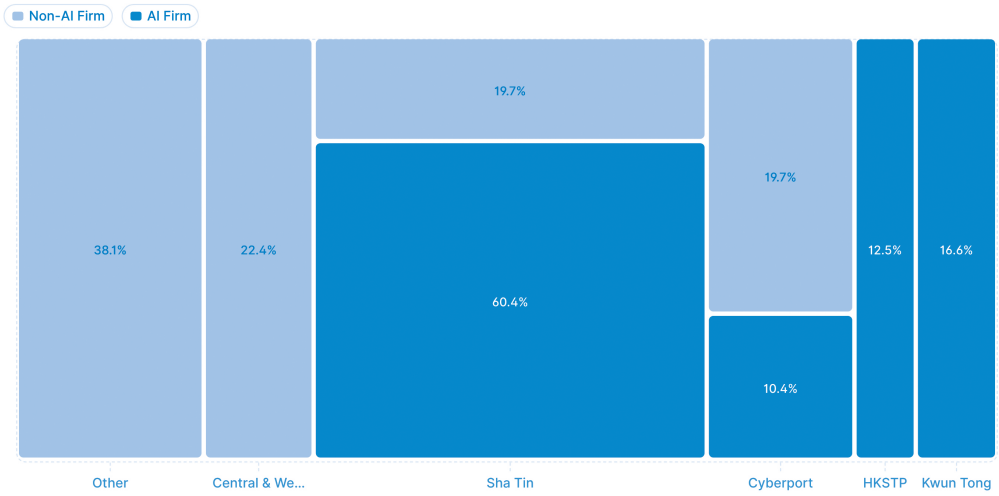
Figure 17. R&D Job Postings by Firm Type



At the same time, many AI technology firms in Hong Kong are still at an early stage of development. A large share of them are startups located in innovation clusters such as Science Park and Cyberport (Figure 18).

These firms focus on technical development and innovation. This is consistent with the role of these innovation clusters as startup and technology incubation platforms in Hong Kong.[8] [9] However, turning new technologies into scalable commercial solutions often requires further industry collaboration and support.

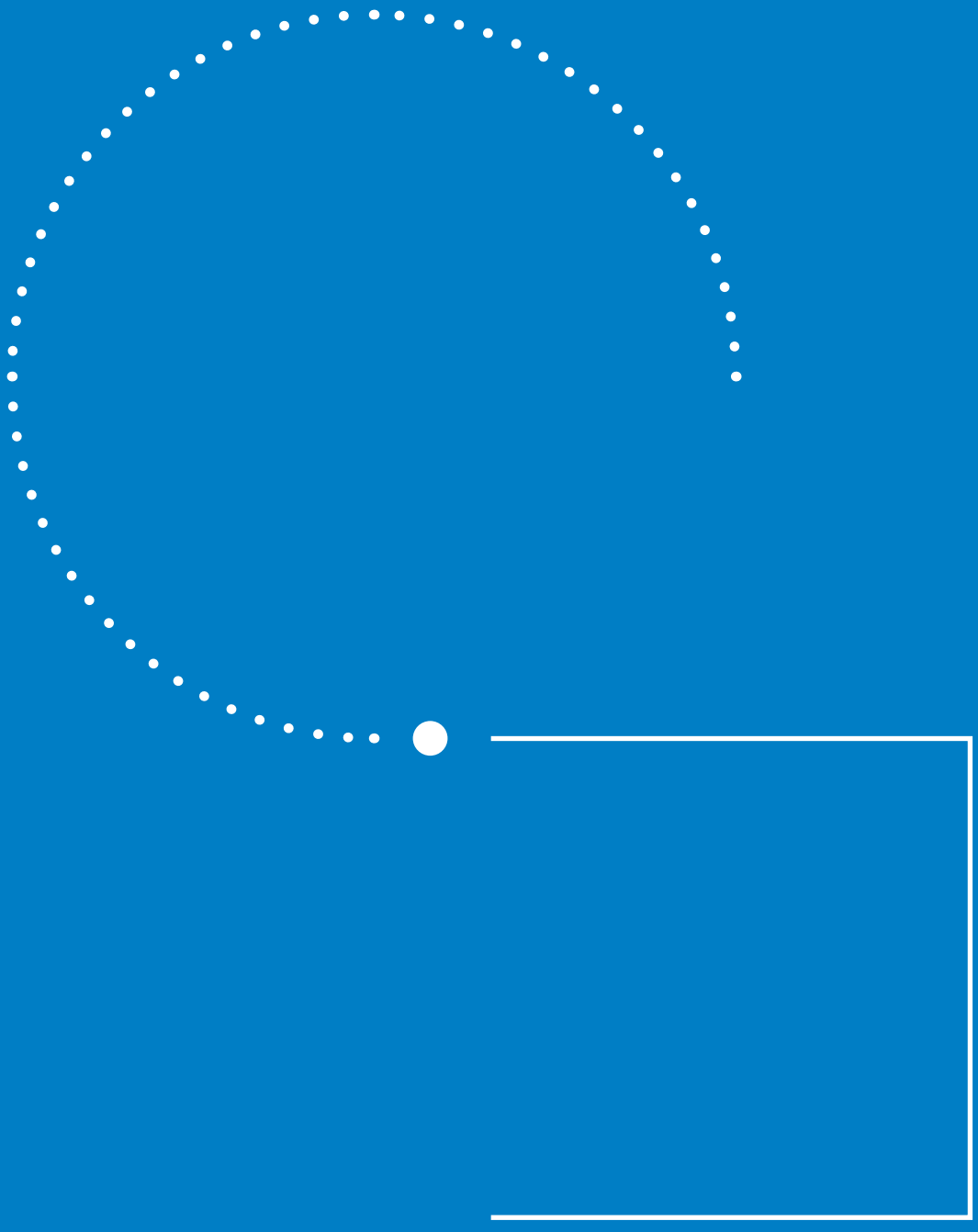
Figure 18. Geographic Distribution of AI Job Postings by Firm Type



[8] https://www.cyberport.hk/en/
[9] https://www.hkstp.org/en/

As a result, different parts of the AI ecosystem play different roles. AI startups focus on developing new technologies, while established companies hold most real application scenarios. When these two sides are not well connected, technology development and business deployment may not progress at the same pace. This creates an ecosystem mismatch between AI innovation and large-scale industrial adoption.

Conclusion



Hong Kong has made significant progress in building its AI talent base. The number of professionals with AI-related skills has grown rapidly over the past decade, supported by talent attraction policies and a strong academic ecosystem.

However, the evidence in this report suggests that the key challenge is not the overall quantity of AI talent. Instead, the labor market shows several structural mismatches between talent supply and industry demand. These include gaps in experience, differences between technical skills and applied capability, and a disconnect between AI development and large-scale business deployment.

For Hong Kong, the next phase of AI policy should therefore focus less on expanding talent numbers and more on improving alignment. Strengthening the senior talent pipeline, building applied AI capability, and connecting AI firms with traditional industries will be essential for turning technical capacity into economic impact.

Index

The Chief Executive's 2025 Policy Address
https://www.policyaddress.gov.hk/2025/en/policy.html

Introduction of Admission Schemes for Talent, Professionals and Entrepreneurs
https://www.immd.gov.hk/eng/useful_information/admission-schemes-talents-professionals-entrepreneurs.html

Revelio Labs
https://wrds-www.wharton.upenn.edu/pages/about/data-vendors/revelio-labs/

Jobsdb
https://hk.jobsdb.com/

The 2025 AI Index Report
https://hai.stanford.edu/ai-index/2025-ai-index-report

Around 10,000 talents have come to Hong Kong through various schemes
https://www.news.gov.hk/chi/2024/04/20240430/20240430_102032_449.html

Cyberport
https://www.cyberport.hk/en/

Hong Kong Science & Technology Parks Corporation (HKSTP)
https://www.hkstp.org/en/

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About the Center for Business and Social Analytics (CBSA)

The Center for Business and Social Analytics (CBSA) was established by the HKUST Business School in 2020 with the objective of addressing contemporary business and social problems by harnessing business and social big data and advanced Artificial Intelligence methodologies. Our research is rooted in a broad range of data sources, including social media data, user-generated content, corporate disclosures, and other alternative data. We draw on the strengths of faculty and researchers across diverse disciplines such as business accounting, economics, information systems, decision analytics, finance, computer science, and the humanities and social sciences. By leveraging a multidisciplinary approach, we aim to produce research that can impact both business practice and public policy.

CBSA actively seeks collaboration with other academic, public, and private organizations that share the same vision of cultivating and analyzing business and social big data to uncover novel insights and knowledge. We welcome academic scholars and industry practitioners to work with us on addressing emerging business and social problems for the long-term betterment of Hong Kong and beyond.


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