



Professions in Short Supply applicable to the Advanced Professionals Programme of the High-Tech Industry

Professional Fields	Professional Subcategory	Professions in Short Supply
<p>Microelectronics and integrated circuit technology, in areas of design, research and application development</p>	<p>Design, research and application development of integrated circuit (IC) chips</p>	<ul style="list-style-type: none"> • Specialists in integrated circuit designs • Specialists in electronic design automation (EDA) • Process engineers • Integration engineers • Fabrication engineers
	<p>Design, research and application development of electronic components</p>	<ul style="list-style-type: none"> • Specialists in electronic component design and technology development
<p>Information and communication technology, in areas of research and application development</p>	<p>Research and application development of information technology</p>	<ul style="list-style-type: none"> • Specialists in cloud computing technology research and application development • Specialists in Internet of things technology research and application development • Specialists in big data technology



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Professional Fields	Professional Subcategory	Professions in Short Supply
		<p>research and application development</p> <ul style="list-style-type: none">• Specialists in block chain technology research and application development• Specialists in cyber security product development• Specialists in data security product development• Specialists in information security product development• Specialists in application system technology research and application development• Specialists in network information service research and application development• Specialists in software and system



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Professional Fields	Professional Subcategory	Professions in Short Supply
		<p>technology research and application development</p> <ul style="list-style-type: none"> • Specialists in quantum computing research and application development • Specialists in brain-inspired computing research and application development • Specialists in system simulation technology research and application development
	<p>Application development of metaverse technology</p>	<ul style="list-style-type: none"> • Specialists in virtual reality (VR) application development • Specialists in augmented reality (AR) application development • Specialists in mixed reality (MR) application



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		<p>development</p> <ul style="list-style-type: none"> • Specialists in extended reality (XR) application development
	<p>Research and application development of communication technology</p>	<ul style="list-style-type: none"> • Specialists in communication research and application development • Specialists in wireless access technology development • Specialists in optical transmission technology development • Specialists in mobile communication technology development
<p>Artificial intelligence technology, in areas of research and application development</p>	<p>Research and application development of artificial intelligence technology</p>	<ul style="list-style-type: none"> • Specialists in artificial intelligence technology research and application development • Specialists in artificial intelligence



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		<p>algorithms</p> <ul style="list-style-type: none"> • Specialists in artificial intelligence frameworks • Specialists in big data research and application development • Specialists in big data model designs • Specialists in application development of human-computer interaction designs • Specialists in application development of user experience designs • Specialists in application development of 3D model designs
<p>Engineering technologies, in areas of application development</p>	<p>Application development of automation artificial intelligence</p>	<ul style="list-style-type: none"> • Specialists in application development of mechanical engineering technology



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		<ul style="list-style-type: none"> • Specialists in application development of automation technology • Specialists in application development of algorithm technology
<p style="text-align: center;">Innovative materials, in areas of research and application development</p>	<p style="text-align: center;">Research and application development of innovative materials</p>	<ul style="list-style-type: none"> • Specialists in innovative material research and application development
<p style="text-align: center;">Green energy, in areas of research and application development</p>	<p style="text-align: center;">Research and application development of green energy</p>	<ul style="list-style-type: none"> • Specialists in green energy research and application development
<p style="text-align: center;">Environmental science technology, in areas of research and application development</p>	<p style="text-align: center;">Research and application development in environmental science technologies</p>	<ul style="list-style-type: none"> • Specialists in environmental science technology research and application development
<p style="text-align: center;">Design and development of operating systems, compilers and</p>	<p style="text-align: center;">Design and development of operating systems, compilers and embedded software</p>	<ul style="list-style-type: none"> • Specialists in operation system development • Specialists in embedded system



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embedded software		development <ul style="list-style-type: none"> • Specialists in compiler development • Specialists in integrated development environment (IDE) • Specialists in performance tool chain • Specialists in embedded software design development
Teaching and research in high-tech and management in scientific research	Teaching and research in High-Tech	<ul style="list-style-type: none"> • Teaching and research personnel in high-tech • Specialists in research and translation
	Management in scientific research	<ul style="list-style-type: none"> • Specialists in research project management • Specialists in research platform management • Specialists in research outcome management



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Professional Fields	Professional Subcategory	Professions in Short Supply
<p style="text-align: center;">Scientific research translation and product commercialisation</p>	<p style="text-align: center;">Scientific research translation and product commercialisation</p>	<ul style="list-style-type: none"> • Specialists in research translation related to high-tech • Specialists in business development for science and technology institutions • Specialists in processing intellectual property protection and management for science and technology institutions • Specialists in investment, financing, acquisition and merger for science and technology companies • Specialists in promotion and marketing of scientific products • Specialists in filing



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Professional Fields	Professional Subcategory	Professions in Short Supply
		technology patent applications

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