

Tech Careers Information

Tech Role	Useful Links	Qualifications Required	Career Progression
AI Specialist	<p>https://mybroadband.co.za/news/ai/592611-top-paying-ai-jobs-in-south-africa.html</p> <p>https://interviewguy.com/artificial-intelligence-specialist-job-description/</p> <p>https://jobicy.com/salaries/za/ai-training-specialist</p>	<p>Bachelor's in Computer Science, AI, Data Science, or related field.</p>	<p>Junior: Junior AI Engineer</p> <p>Senior: Senior AI Scientist</p> <p>Leader: AI Director</p>
Additive Manufacturing (3D Printing) Engineer	<p>https://cut.simplify.hr/vacancy/iesrqq</p> <p>https://www.freelancemap.com/blog/what-does-3d-printing-engineer-do/</p> <p>https://www.tctmagazine.com/additive-manufacturing-3d-printing-news/latest-additive-manufacturing-3d-printing-news/a-day-in-the-life-of-an-am-engineer/</p>	<p>Bachelor's in Mechanical, Materials, or Manufacturing Engineering and experience with 3D printing technologies.</p>	<p>Junior: Junior 3D Printing Technician</p> <p>Senior: Senior Additive Manufacturing Engineer</p> <p>Leader: Head of Additive Manufacturing</p>
Agricultural Biotechnologist	<p>https://en.wikipedia.org/wiki/Agricultural_biotechnology</p> <p>https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/agricultural-biotechnology</p>	<p>Bachelor's in Biotechnology, Agricultural Science, or related field.</p>	<p>Junior: Junior Biotech Analyst</p> <p>Senior: Senior Biotech Researcher</p> <p>Leader: Director of Agricultural Biotechnology</p>

	https://biotech-careers.org/job-area/agricultural-biotechnology		
BI Analyst	https://www.coursera.org/articles/business-intelligence-analysts-what-they-are-and-how-to-become-one https://www.michaelpageafrica.com/advice/career-advice/role-business-intelligence-analyst https://www.techtarget.com/searchbusinessanalytics/feature/What-does-a-business-intelligence-analyst-do	Bachelor's in Computer Science, Data Science, Business Analytics, or related field.	Junior: Junior BI Analyst Senior: Senior BI Consultant Leader: BI Strategy Lead
Cloud Engineer	https://www.digitalregenesys.com/blog/how-to-become-a-cloud-engineer-in-south-africa https://www.jobdescription.co.za/cloud-engineer-job-description/ https://www.coursera.org/articles/what-is-a-cloud-engineer	Bachelor's in Computer Science, IT, or related field; cloud certifications (AWS, Azure, GCP) highly recommended.	Junior: Junior Cloud Technician Senior: Senior Cloud Engineer Leader: Cloud Infrastructure Manager
Cybersecurity Engineer	https://sagovjobs.co.za/cybersecurity-salaries-and-opportunities-in-sa/ https://inquiresalary.co.za/cyber-security-salary-2/ https://www.digitalregenesys.com/blog/cyber-security-engineer-salary-in-south-africa	Bachelor's in Cybersecurity, Computer Science, or IT; certifications like CISSP, CEH, or CompTIA Security+ are often required.	Junior: Junior Security Analyst Senior: Senior Cybersecurity Engineer Leader: Chief Information Security Officer

Data Analyst	https://gometa.co.za/the-data-analyst-a-south-african-guide/ https://www.jobdescription.co.za/data-analyst-job-description/ https://www.coursera.org/articles/what-does-a-data-analyst-do-a-career-guide	Bachelor's in Statistics, Mathematics, Computer Science, or related field; certifications in data analytics tools are advantageous.	Junior: Junior Data Analyst Senior: Senior Data Analyst Leader: Analytics Manager
Data Scientist	https://jobfinders24.co.za/data-scientists-and-analysts/ https://sagovjobs.co.za/data-scientists-in-sa-a-comprehensive-guide/ https://www.jobdescription.co.za/data-scientist/	Bachelor's in Data Science, Computer Science, or related field; Master's or Ph.D. often required for advanced roles.	Junior: Junior Data Scientist Senior: Senior Data Scientist Leader: Chief Data Officer
Digital Marketing Specialist	https://www.dbdigital.co.za/post/digital-marketing-specialist https://www.myjobmag.co.za/job-descriptions/digital-marketing-specialist https://www.coursera.org/articles/digital-marketing-specialist	Bachelor's in Marketing, Communications, or related field; certifications (Google Ads, Analytics) advantageous.	Junior: Junior Digital Marketer Senior: Senior Marketing Strategist Leader: Marketing Director
Drone Pilot	https://www.4cornerresources.com/job-descriptions/drone-pilot/ https://terra-droneagri.com/roles-and-benefits-of-a-commercial-drone-operator-in-agriculture/?srsltid=AfmBOoo-	FAA Part 107 Remote Pilot Certificate (or equivalent in other regions); no degree required.	Junior: Junior Drone Operator Senior: Senior UAV Specialist Leader: Drone Operations Manager

	<p>wKQfwlsziHM7kdfzl6oFOYVAuR0jidh oB61i4wTCc_vGfN-J</p> <p>https://www.indeed.com/career-advice/finding-a-job/becoming-a-drone-pilot#:~:text=The%20day%2Dto%2Dday%20responsibilities,with%20clients%20to%20discuss%20data</p>		
e-Commerce Manager	<p>https://www.shopify.com/za/blog/ecommerce-manager</p> <p>https://business.linkedin.com/en-in/talent-solutions/resources/talent-acquisition/job-descriptions/e-commerce-manager</p> <p>https://www.indeed.com/career-advice/finding-a-job/how-to-become-ecommerce-manager</p>	Bachelor's in Business, Marketing, or IT; MBA preferred for senior roles; experience with e-commerce platforms essential.	<p>Junior: Junior eCommerce Assistant</p> <p>Senior: Senior eCommerce Strategist</p> <p>Leader: Head of eCommerce</p>
e-Learning Specialist	<p>https://www.teachfloor.com/elearning-glossary/what-is-digital-learning-specialist</p> <p>https://ed.lehigh.edu/sites/ed.lehigh.edu/files/Vacant%20e-Learning%20Specialist%20%205.7.18.pdf</p> <p>https://www.yourlearningcareer.com/how-to-become-an-e-learning-developer/</p>	Bachelor's in Education, Instructional Design, or Educational Technology; LMS experience required.	<p>Junior: Junior Instructional Designer</p> <p>Senior: Senior E-Learning Developer</p> <p>Leader: Head of Digital Learning</p>

Ethical Hacker	https://www.interviewguy.com/ethical-hacker-job-description/	Bachelor's in Cybersecurity or IT; CEH certification required.	Junior: Junior Penetration Tester Senior: Senior Ethical Hacker Leader: Cybersecurity Lead
Fintech Cybersecurity Architect	https://cybersecurityguide.org/careers/security-specialist/ https://www.crowdstrike.com/en-us/cybersecurity-101/exposure-management/ethical-hacker/ https://www.blackduck.com/glossary/what-is-ethical-hacking.html	Bachelor's in Cybersecurity, Computer Science, or related field; advanced certifications (CISSP, CISM) often required.	Junior: Junior Fintech Security Analyst Senior: Senior Fintech Architect Leader: Fintech Security Director
Game AI Designer	https://www.careerexplorer.com/careers/video-game-designer/ https://www.cgspectrum.com/career-pathways/ai-programmer https://www.coursera.org/articles/ai-for-game-development	Bachelor's in Game Development, Computer Science, or related field; experience with AI frameworks.	Junior: Junior Game AI Developer Senior: Senior Game AI Designer Leader: Lead Game AI Architect
Human-Robot Interaction Designer	https://losangeles.gladeo.org/career/human-robot-interaction-designer https://blog.boston-engineering.com/human-robot-interactionbridging-the-gap-between-people-and-machines https://www.boston-engineering.com/solutions/technic	Bachelor's in Robotics, HCI, or related field; Master's preferred for advanced roles.	Junior: Junior HRI Designer Senior: Senior HRI Specialist Leader: Director of Human-Robot Interaction

	al-innovation/robotics/robotics-design-and-application-expertise/human-robot-interaction-design/		
ICT Technician	https://www.jobmail.co.za/blog/a-guide-to-becoming-an-it-computer-technician-in-south-africa https://uk.indeed.com/hire/job-description/it-technician https://www.comeet.com/resources/job-descriptions/it-technician	High school diploma minimum; Associate's or Bachelor's in IT preferred; certifications (CompTIA A+, CCNA) recommended.	Junior: Junior IT Support Senior: Senior ICT Technician Leader: IT Operations Manager
Machine Learning Engineer	https://interviewguy.com/machine-learning-engineer-job-description/ https://www.jobdescription.co.za/machine-learning-engineer-job-description/ https://www.coursera.org/articles/what-is-machine-learning-engineer	Bachelor's in Computer Science, AI, or related field; Master's often preferred.	Junior: Junior ML Engineer Senior: Senior ML Engineer Leader: ML Team Lead
Mechatronic Product Designer	https://www.careerplanet.co.za/careers/mechatronics-engineer/ https://www.simplexitypd.com/mechatronics/ https://emeritus.org/in/learn/roles-and-responsibilities-of-a-mechatronics-engineering/	Bachelor's in Mechatronics, Mechanical, or Electrical Engineering; CAD proficiency essential.	Junior: Junior Mechatronics Designer Senior: Senior Mechatronics Engineer Leader: Head of Mechatronic Design

Metaverse Architect	https://www.novatr.com/blog/architectural-designing-in-the-metaverse https://cryptojoblist.com/blog/metaverse-architect-build https://jkcp.com/how-to-become-a-metaverse-architect-career-paths-and-courses/	Bachelor's in Computer Science, Game Design, or related field; VR/AR development experience essential.	Junior: Junior Metaverse Developer Senior: Senior Metaverse Architect Leader: Metaverse Strategy Lead
Quantitative Developer	https://www.caf.com/blog/guide-becoming-quantitative-developer https://www.quantstart.com/article/s/A-Day-in-the-Life-of-a-Quantitative-Developer/ https://www.quantinsti.com/articles/quantitative-developer/	Bachelor's in Computer Science, Mathematics, or Finance; strong programming and quantitative skills.	Junior: Junior Quant Developer Senior: Senior Quant Developer Leader: Quantitative Development Manager
Robotics Engineer	https://www.careerplanet.co.za/careers/robotics-engineer/ https://www.interviewguy.com/robotics-engineer-job-description/ https://www.mtu.edu/ece/undergraduate/robotics/what-is/	Bachelor's in Robotics, Mechanical, or Electrical Engineering.	Junior: Junior Robotics Technician Senior: Senior Robotics Engineer Leader: Robotics Program Manager
Satellite Systems Engineer	https://interviewguy.com/satellite-systems-engineer-job-description/ https://resumedesign.ai/job-descriptions/satellite-systems-engineer/	Bachelor's in Aerospace, Electrical, or Systems Engineering; Master's preferred for advanced roles.	Junior: Junior Satellite Technician Senior: Senior Satellite Systems Engineer Leader: Satellite Operations Director

	https://himalayas.app/job-descriptions/satellite-engineer		
Software Developer	https://www.offerzen.com/reports/software-developer-south-africa https://www.myjobmag.co.za/job-descriptions/software-developer https://fundiconnect.co.za/how-to-become-a-software-developer/	Bachelor's in Computer Science, Software Engineering, or related field.	Junior: Junior Developer Senior: Senior Software Engineer Leader: Software Development Manager
Solutions Architect	https://www.jobdescription.co.za/solutions-architect-job-description/ https://www.coursera.org/articles/solutions-architect https://www.altexsoft.com/blog/solution-architect-role/	Bachelor's in Computer Science, IT, or related field; several years of IT experience; cloud certifications (AWS/Azure) preferred.	Junior: Junior Solutions Analyst Senior: Senior Solutions Architect Leader: Chief Solutions Officer
Space Medicine Specialist	https://www.bmj.com/careers/article/the-complete-guide-to-aviation-medicine https://www.asma.org/about-asma/careers/aerospace-medicine https://www.bmj.com/careers/article/the-complete-guide-to-aviation-medicine	Medical degree (MD/DO) plus residency in Aerospace/Space Medicine; board certification is often required.	Junior: Junior Space Health Analyst Senior: Senior Space Medicine Specialist Leader: Director of Space Medicine

Systems Engineer	https://postmatric.co.za/career/systems-engineer https://interviewguy.com/systems-engineer-job-description/ https://www.coursera.org/articles/systems-engineer	Bachelor's in Systems Engineering, Computer Science, or related field; Master's for specialized roles.	Junior: Junior Systems Analyst Senior: Senior Systems Engineer Leader: Systems Engineering Manager
Telemedicine Clinician	https://safpj.co.za/index.php/safpj/article/view/5533/7413 https://www.hpcsablogs.co.za/hpcsablogs-telehealth-guidelines/ https://www.intechopen.com/chapters/1176535	Licensed healthcare professional (MD, NP, PA, RN); telehealth certifications (ATA, TMH-C) recommended.	Junior: Junior Telehealth Provider Senior: Senior Telemedicine Clinician Leader: Telemedicine Program Director
VR Developer	https://www.coursera.org/articles/virtual-reality-job-description https://coursesouthafrica.co.za/virtual-reality-development-courses-in-south-africa/ https://www.manatal.com/job-description/virtual-reality-developer-job-description	Bachelor's in Computer Science, Game Development, or related field; experience with Unity/Unreal Engine; VR certifications helpful.	Junior: Junior VR Developer Senior: Senior VR Engineer Leader: VR Project Lead
Web Designer	https://www.jobdescription.co.za/web-designer-job-description/ https://fundiconnect.co.za/career_profiles/web-designer/	Bachelor's in Web Design, Graphic Design, or related field; portfolio essential; certificates or bootcamps accepted.	Junior: Junior Web Designer Senior: Senior UX/UI Designer Leader: Web Design Manager

<https://www.coursera.org/articles/web-designer>

Video Resources

<https://www.youtube.com/watch?v=cbffW0MeWoY&pp=ygUfdGVjaCBjYXJlZlGVkdWNhdGlvbmFsIHZpZGVvcw%3D%3D>

<https://www.youtube.com/watch?v=XZrckLYqdys&pp=ygU2dGVjaCBjYXJlZlGF3YXJlbnVzcyB2aWRlb3MgZm9yIGhpZ2gac2Nob29sIHNoZWV3cw%3D%3D>

https://www.youtube.com/watch?v=fZmQ_aPXJAM&pp=ygUxdGVjaCBjYXJlZlGF3YXJlbnVzcyB2aWRlb3Mgd2l0aCB0aGUgbW9zdCB2aWV3cw%3D%3D