序号	岗位	岗位职责	岗位要求
1	机械工程师 Mechanical Engineer	1. 参与手术机器人的部件结构设计，根据产品需求完成台车、驱动模块的设计、优化，以及零部件选型工作； 2. 负责研发样机的试产跟进，对产品技术状态进行现场分析，并不断优化，保障产品的稳定、可靠； 3. 协同电子电气工程师完成整体结构、电气、线束的集成，实现机电一体化； 4. 产品标准件选型、零部件图纸绘制； 5. 产品相关技术文件整理，BOM管理与专利的撰写 1. Participate in the component structure design of surgical robots, complete the design, optimization of trolleys and drive modules, as well as the selection of parts and components according to product requirements. 2. Be responsible for following up the trial production of the R&D prototypes, conduct on-site analysis of the product's technical status, and continuously optimize it to ensure the stability and reliability of the product. 3. Cooperate with electronic and electrical engineers to complete the integration of the overall structure, electrical systems and wire harnesses, realizing electromechanical integration. 4. Select standard parts for the product and draw drawings of parts and components. 5. Sort out product-related technical documents, manage the Bill of Materials (BOM) and write patents.	1. 机械相关专业，本科以上学历，且具有扎实的机械/机电设计/传动理论基础 2. 具备5年及以上机器人本体或医疗器械相关开发经验，熟悉医疗机器人机械设计经验优先； 3. 熟悉减速器、编码器、齿轮传动等传动件选型； 4. 熟悉医疗器械研发质量管理，能够撰写研发DHF文档； 5. 团队协作意识强，能吃苦耐劳，具有良好的交流沟通能力，具有强烈的责任心，自驱工作； 1. Majoring in mechanical-related fields, with a bachelor's degree or above, and having a solid theoretical foundation in mechanical/electromechanical design/transmission. 2. Possessing 5 years or more of development experience related to robot bodies or medical devices. Those familiar with the mechanical design experience of medical robots are preferred. 3. Familiar with the selection of transmission components such as reducers, encoders and gear transmissions. 4. Familiar with the quality management of medical device research and development, and able to write the Design History File (DHF) documents for research and development. 5. Having a strong sense of teamwork, being able to endure hardships and work hard, possessing good communication skills, a strong sense of responsibility and being self-motivated in work.
2	结构工程师 Structural Engineer	1. 负责柔性内窥镜结构设计、关键物料选型、加工工艺确认及产品验证； 2. 与整机配合完成内窥镜驱动部件结构设计及验证； 3. 负责零部件的单元验证、模具跟踪、试模件的确认、模具验收等工作 4. 协同制造系统完成小批量试产，改进加工工艺，解决生产问题； 5. 设计文档、工艺文件的编写、绘制与归档； 1. Be responsible for the structural design of flexible endoscopes, the selection of key materials, the confirmation of processing techniques and the product verification. 2. Cooperate with the whole machine to complete the structural design and verification of the driving components of endoscopes. 3.Be responsible for the unit verification of parts and components, mold tracking, confirmation of trial mold samples, mold acceptance and other work. 4. Collaborate with the manufacturing system to complete small-batch trial production, improve processing techniques and solve production problems. 5. Compile, draw and file design documents and process documents.	1. 机械、精密仪器、光学工程等专业本科以上学历； 2. 5年以上的结构开发经验，3年以上内窥镜结构开发经验，熟练使用三维及二维设计软件。 3. 熟悉柔性器械精密零件的设计，了解耗材灭菌验证流程； 4. 熟悉精密不锈钢管件的切割、焊接、成型工艺，熟悉医疗常用材料的性能及加工方法； 5、 团队协作意识强，能吃苦耐劳，具有良好的交流沟通能力，具有强烈的责任心，自驱工作； 1. Bachelor's degree or above in mechanical engineering, precision instruments, optical engineering or other related majors. 2. With more than 5 years of structural development experience and over 3 years of experience in endoscope structural development, and proficient in using 3D and 2D design software. 3. Familiar with the design of precision parts for flexible instruments and acquainted with the sterilization verification process for consumables. 4. Familiar with the cutting, welding and forming processes of precision stainless steel pipes and fittings, as well as the properties and processing methods of commonly used medical materials. 5. Having a strong sense of teamwork, being able to endure hardships, possessing good communication skills, a strong sense of responsibility and being self-motivated at work.
3	系统测试工程师 System Test Engineer	1. 搭建柔性手术器械、手术机器人和导航平台的测试环境； 2. 负责产品功能、性能测试、系统安规、EMC、环境、系统风险测试；制定产品设计验证测试计划、编写测试方案、完成测试工作，输出测试报告； 3. 参与产品的型检、临床和注册过程并提供支持； 4. 管理测试过程中的所有技术问题，通过缺陷管理工具建立问题追踪，推动测试问题解决； 5. 作为测试代表参与技术方案评审，从测试角度给出开发建议，保证所有功能可测试封闭； 1. Set up the testing environment for flexible surgical instruments, surgical robots and navigation platforms. 2. Be responsible for product functionality and performance testing, system safety regulations, EMC (Electromagnetic Compatibility), environmental and system risk testing; formulate product design verification test plans, write test protocols, complete testing work and output test reports. 3. Participate in the type inspection, clinical trials and registration process of the products and provide support. 4. Manage all technical issues during the testing process, establish issue tracking through defect management tools and promote the resolution of testing issues. 5. Participate in the technical solution review as a testing representative, provide development suggestions from the testing perspective, and ensure that all functions are testable and closed.	1. 本科及以上学历，计算机，电子、通信、生物医学工程等相关专业； 2. 具备5年以上软硬件以及系统整体相关的测试经验和医疗器械测试经验； 3. 能够独立搭建测试环境，制定测试方案，开发测试工具及软件； 4. 能够根据需求，执行相应的测试用例，保证需求的测试覆盖，输出测试报告； 5. 熟悉医疗器械相关法规，如GB9706.1等， 6. 责任心强，积极主动，团队协作意识强，具有良好的沟通能力。 1. Bachelor's degree or above, majoring in computer science, electronics, communications, biomedical engineering or other related majors. 2. With more than 5 years of testing experience related to software, hardware and the overall system as well as medical device testing experience. 3. Be able to independently set up the testing environment, formulate testing plans, and develop testing tools and software. 4. Be able to execute corresponding test cases according to requirements, ensure the test coverage of requirements, and output test reports. 5. Be familiar with relevant regulations on medical devices, such as GB 9706.1, etc. 6. Have a strong sense of responsibility, be proactive, have a strong sense of teamwork and possess good communication skills.

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4	形状感知工程师 Shape Sensing Engineer	1. 负责电子产品的设计、开发和调试，包括电路设计、PCB布局和FPGA编程。 2. 与光学工程师合作，集成光学传感器和电子系统，进行光路和信号调试。 3. 使用软件编程语言（如C/C++、Python等）开发测试和控制软件。 4. 负责硬件系统的测试和验证，确保产品性能满足设计要求。 5. 撰写技术文档，包括设计规范、测试报告和用户手册。 6. 跟踪最新的电子技术和行业动态，评估并引入新技术以提升产品性能。 1. Be responsible for the design, development and debugging of electronic products, including circuit design, PCB layout and FPGA programming. 2. Cooperate with optical engineers to integrate optical sensors and electronic systems, and conduct optical path and signal debugging. 3. Use software programming languages (such as C/C++, Python, etc.) to develop testing and control software. 4. Be responsible for the testing and verification of the hardware system to ensure that the product performance meets the design requirements. 5. Write technical documents, including design specifications, test reports and user manuals. 6. Keep track of the latest electronic technologies and industry trends, evaluate and introduce new technologies to improve product performance.	1. 电子工程、计算机工程或相关领域本科以上学历。 2. 2年以上的电子产品开发经验，熟悉数字和模拟电路设计。 3. 熟练使用FPGA进行硬件编程和调试，有实际产品开发经验。 4. 精通至少一种软件编程语言，具备良好的编程习惯和代码管理能力。 5. 熟悉PCB设计工具，如Altium Designer、Cadence等。 6. 能够独立进行硬件系统的测试和故障诊断。 7. 良好的团队合作精神和沟通能力，能够与跨学科团队合作。 8. 英语读写能力良好，能够阅读和撰写专业英文技术文档。 加分项： 1. 具有光学系统或光纤传感器的集成经验。 2. 参与过光路调试和信号调试项目，有实际的光学系统测试经验。 3. 熟悉光学传感器的电子接口和信号处理技术。 1. Bachelor's degree or above in electronic engineering, computer engineering or related fields. 2. With more than 2 years of experience in electronic product development and familiar with digital and analog circuit design. 3. Proficient in using FPGA for hardware programming and debugging, and having practical product development experience. 4. Proficient in at least one software programming language, with good programming habits and code management capabilities. 5. Familiar with PCB design tools, such as Altium Designer, Cadence, etc. 6. Be able to independently conduct testing and fault diagnosis of hardware systems. 7. Have a good spirit of teamwork and communication skills, and be able to cooperate with interdisciplinary teams. 8. Have good English reading and writing abilities, and be able to read and write professional English technical documents. **Plus Items** 1. Having integration experience in optical systems or fiber optic sensors. 2. Having participated in optical path debugging and signal debugging projects, and having practical optical system testing experience. 3. Familiar with the electronic interfaces and signal processing technologies of optical sensors.
5	软件工程师 Software Engineer	1. 负责手术机器人软件系统的设计、开发与维护，包括图像导航、运动控制、人机交互等功能模块。 2. 进行算法的工程化实现及优化，如手术规划、精准导航等，提升手术精准度与稳定性。 3. 参与软件系统的集成与测试，确保软件与硬件的兼容性和协同工作，修复软件缺陷。 4. 根据临床需求和反馈，对软件进行功能升级和改进。 5. 编写软件相关的技术文档，如设计文档、测试文档等 1. Be responsible for the design, development and maintenance of the surgical robot software system, including functional modules such as image navigation, motion control and human-computer interaction. 2. Implement and optimize algorithms in an engineering way, such as surgical planning and precise navigation, to improve the precision and stability of surgeries. 3. Participate in the integration and testing of the software system, ensure the compatibility and cooperative work between software and hardware, and fix software defects. 4. Upgrade and improve the software functions according to clinical needs and feedback. 5. Write technical documents related to the software, such as design documents and test documents.	1. 计算机、自动化、生物医学工程等相关专业本科及以上学历，3 年以上客户端/服务器软件开发的相关工作经验 2. 精通 c++，python，良好的代码编写习惯； 3. 熟悉TCP/IP协议和网络编程； 4. 熟悉常用算法、数据结构、设计模式、多线程、异步编程、分布式等技术； 5. 熟练使用客户端开发框架如 QT 等，精通客户端开发的MVC架构，具备一定的架构能力； 6. 善于学习，工作严谨，具备钻研精神，能具备快速学习新知识的能力； 1. Bachelor's degree or above in computer science, automation, biomedical engineering or other related majors, with more than 3 years of relevant work experience in client/server software development. 2. Proficient in C++, Python and with good coding habits. 3. Familiar with the TCP/IP protocol and network programming. 4. Familiar with common algorithms, data structures, design patterns, multi-threading, asynchronous programming, distributed technology and other techniques. 5. Skilled in using client development frameworks such as QT, proficient in the MVC architecture of client development and equipped with certain architectural capabilities. 6. Good at learning, rigorous in work, possessing the spirit of delving into problems and capable of quickly learning new knowledge.
6	图像算法工程师 Image Algorithm Engineer	1. 针对特定手术场景，研发与优化图像采集、处理和分析算法，助力精准手术导航。 2. 负责多模态图像（如内窥镜图像、CT 影像等）配准与融合算法开发，提高病变部位辨识度。 3. 与机器人硬件团队协作，适配图像算法以发挥硬件最佳性能，配合软件团队将算法集成至手术控制系统，保障系统稳定运行。 4. 收集临床医生对手术图像功能的反馈，据此改进算法，参与手术机器人临床测试，确保图像算法符合医疗规范与手术需求。 5. 跟踪图像算法前沿技术，探索新技术在手术机器人中的应用潜力，推动产品技术升级。 1. Research and optimize image acquisition, processing and analysis algorithms for specific surgical scenarios to assist in precise surgical navigation. 2. Be responsible for the development of registration and fusion algorithms for multimodal images (such as endoscopic images, CT images, etc.) to improve the recognition of diseased areas. 3. Collaborate with the robot hardware team to adapt image algorithms to bring out the best performance of the hardware, and cooperate with the software team to integrate the algorithms into the surgical control system to ensure the stable operation of the system. 4. Collect feedback from clinical doctors on the functions of surgical images, improve the algorithms based on this feedback, participate in the clinical testing of surgical robots, and ensure that the image algorithms comply with medical regulations and surgical requirements. 5. Keep track of the cutting-edge technologies of image algorithms, explore the application potential of new technologies in surgical robots, and promote the technological upgrading of products.	1. 计算机、自动化控制、电子信息、生物医学工程等相关专业硕士及以上学历 2. 具备扎实的数学基础，如线性代数、概率论、数值分析等 3. 熟练掌握python/c/c++等编程预研，良好的代码编写习惯； 4. 熟悉 ITK、VTK、OpenCV、MITK 等图像处理库； 5. 掌握图像预处理、增强、分割、配准、重建等算法原理与实现。 6. 熟悉 CUDA/OpenCL 并行计算，能熟练使用 OPENGL 或 vulkan 进行图像渲染更佳 7. 有较强的学习能力、创新能力和问题解决能力，具备良好的沟通能力和团队协作精神 1. Master's degree or above in computer science, automation control, electronic information, biomedical engineering or other related majors. 2. Have a solid mathematical foundation, such as linear algebra, probability theory, numerical analysis, etc. 3. Be proficient in programming languages such as Python/C/C++, and have good coding habits. 4. Be familiar with image processing libraries like ITK, VTK, OpenCV, MITK, etc. 5. Master the principles and implementations of algorithms for image preprocessing, enhancement, segmentation, registration, and reconstruction. 6. Be familiar with CUDA/OpenCL parallel computing. It is even better if you can skillfully use OPENGL or vulkan for image rendering. 7. Have strong learning, innovation and problem-solving abilities, as well as good communication skills and a spirit of teamwork.

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7	结构仿真工程师 Structural Simulation Engineer	1.进行连续體机器人的有限元仿真模拟，分析其受力和变形，并通过实验验证结果。 2.进行强度分析并优化连续体机器人的力学性能。 3.模拟和优化刚柔复合结构的力学行为。 1.Conduct finite element simulation of the continuum robot to analyze its stress and deformation, and validate the results through experiments. 2.Perform strength analysis and optimize the mechanical performance of the continuum robot. 3.Simulate and optimize the mechanical behavior of the rigid-flexible composite structure.	1.硕士或以上学历，具备扎实的力学和数学基础，至少3年相关工作经验。 2.熟悉有限元分析的基本理论，了解力学和材料性质。 3.熟练使用Abaqus、Ansys等有限元模拟软件，具有大变形模拟经验，具有二次开发经验为佳。 4.能够独立且高质量地完成项目，具有团队合作精神。 5.普通话和英语语言能力熟练。 1.Master's degree or above, with a solid foundation in computational mechanics and mathematics, and at least 3 years of relevant work experience. 2.Familiarity with the basic theories of finite element analysis, and an understanding of mechanics and material properties. 3.Proficient in using finite element simulation software such as Abaqus and/or Ansys, with experience in large deformation simulations; experience in secondary development is a plus. 4.Ability to independently complete projects with high quality, and possess a spirit of teamwork. 5.Proficient in Mandarin and English language skills.
8	嵌入式工程师 Embedded Engineer	1. 负责医疗器械嵌入式系统固件开发，包括需求分析、架构设计、编码实现、调试优化、测试和维护 2. 与硬件、算法、测试团队协作完成系统集成，解决开发中的技术问题，确保产品功能、性能及安全性符合医疗法规要求 3. 根据项目计划，组织实施各模块的详细设计，Code Review以及单元测试，统筹编写并提交相应的设计开发文档(DHF)，协助完成注册所需的技术文档编制 4. 参与电机驱动、传感器数据采集、信号处理、通信协议（如蓝牙、Wi-Fi、ZigBee）及低功耗设计等模块开发 5. 跟踪分析市场反馈，快速响应并及时解决生产过程/用户抱怨的各类软件问题，持续维护和升级软件功能，进行代码和文档更新和管理 1. Responsible for the firmware development of embedded systems in medical devices, including requirement analysis, architecture design, coding implementation, debugging and optimization, testing, and maintenance. 2. Collaborate with hardware, algorithm, and testing teams to complete system integration, address technical issues during development, and ensure that product functionality, performance, and safety meet the requirements of medical regulations. 3. According to the project plan, organize and implement the detailed design of each module, conduct Code Reviews and unit testing, coordinate the writing and submission of corresponding Design History Files (DHF), and assist in the preparation of technical documents required for registration. 4. Participate in the development of modules such as motor drive, sensor data acquisition, signal processing, communication protocols (e.g., Bluetooth, Wi-Fi, ZigBee), and low-power design. 5. Track and analyze market feedback, respond quickly to and resolve various software issues reported during production or by users, continuously maintain and upgrade software functions, and manage code and document updates.	1. 本科及以上学历，具有电子工程、自动控制、计算机、软件工程或其它理工科背景专业，3年及以上工作经验 2. 精通C语言，有良好的系统设计经验、代码规范与编程习惯 3. 熟悉ARM架构和I2C/UART/RS485/CAN/SPI等总线接口，具备硬件调试能力 4. 具备电机控制相关开发经验者优先，有医疗器械相关开发经验优先 1. Bachelor's degree or above in Electrical Engineering, Automatic Control, Computer Science, Software Engineering, or other related technical disciplines, with at least 3 years of relevant work experience. 2. Proficient in C programming language, with strong experience in system design, code standards, and good programming practices. 3. Familiar with ARM architecture and common bus interfaces such as I2C, UART, RS485, CAN, and SPI, and capable of hardware debugging. 4. Prior experience in motor control development is preferred. Experience in medical device development is a plus.
9	业务发展经理/高级专员 Business Development Manager/Senior Specialist	1. 与团队成员共同组织并完成中心的推广宣传活动； 2. 负责人工智能与机器人细分领域的市场调研，深入分析行业趋势、竞争格局及客户需求，为研发决策提供战略支持； 3. 积极开拓业务机会，与政府机构、医院、医疗机构等建立并维护长期合作关系，推动项目合作的落地与实施； 4. 参与中心重点项目的策划与执行，制定清晰的项目计划，协调资源，确保项目高质量交付； 5. 参与商务谈判，起草并管理合作协议，维护中心在合作中的权益与整体利益； 6. 为中心产业化项目提供支持，并完成上级安排的其他工作任务。 1.Collaborate with team members to organize and complete the promotion activities of the center. 2.Be responsible for market research in the segmented fields of artificial intelligence and robotics, conduct in-depth analysis of industry trends, competitive landscape, and customer needs, and provide strategic support for research and development decisions. 3.Actively explore business opportunities, establish and maintain long-term cooperative relationships with government agencies, hospitals, medical institutions, etc., and promote the implementation and execution of project cooperation. 4.Participate in the planning and execution of key projects of the center, formulate clear project plans, coordinate resources, and ensure the high-quality delivery of projects. 5.Participate in business negotiations, draft and manage cooperation agreements, and safeguard the rights, interests, and overall interests of the center in the cooperation. 6.Provide support for the industrialization projects of the center and complete other work tasks assigned by superiors.	1. 本科及以上学历，理工科背景优先，人工智能、自动化、计算机、医学工程等相关专业尤佳； 2. 至少3年相关工作经验，具备医疗器械或医疗投融资领域经验者优先考虑； 3. 熟悉医疗机器人领域的技术发展趋势与市场动态，拥有敏锐的市场分析能力与商业洞察力； 4. 出色的沟通能力与学习能力，良好的英语读写能力（具备粤语能力更佳）。 5. 持有香港工作许可者优先。 1.Bachelor's degree or above, with a science and engineering background preferred, and relevant majors such as artificial intelligence, automation, computer science, and medical engineering are particularly preferred. 2.At least 3 years of relevant work experience, with experience in the medical device or medical investment and financing fields being preferred. 3.Familiar with the technological development trends and market dynamics in the field of medical robots, and possess keen market analysis capabilities and business insights. 4.Excellent communication and learning abilities, and good English reading and writing skills (Preference for proficiency in Cantonese). 5.Those with a Hong Kong work permit will be given priority.

说明：如对职位感兴趣，可投递简历至邮箱：hr02@cair-cas.org.hk