# 基于物联网大数据的医学装备可靠性评估

**【项目描述】：** 近年来，医院医学装备物联网逐步建成，然而基于物联网的医学装备可靠性评估工作尚处于起步阶段。本项目基于医学装备物联网的多元、多模态运行数据，提取医学装备失效及异常指标，建立人工智能模型，预测医学装备的异常及失效的发生时间及严重程度。我们的目标是通过这些研究，实现医学装备失效及异常的智能化测，为医疗机构的智能化及高效运维管理奠定基础。

**【职位概述】：** 我们正在寻求一位基础扎实、自我驱动，对医工项目感兴趣，且愿意开展研究工作的科研助理。理想的候选人应具有统计学、数据科学等的相关背景，并热衷于医工交叉领域工作。候选人将在文献调研、数据采集处理、数学建模及算法实现方面开展工作，通过与团队成员的密切合作，在知名期刊上发表相关学术论文。通过聚焦性科研延展项目（FREE），候选人将有机会获取开展研究工作所需的专业技能和实操技能，从而增加申请博士或硕士研究生项目获批的可能性以及获得工业界长期工作的机会，合作导师可推荐优秀的科研助理到美国、中国香港及国内知名高校攻读博士学位。

**【职位要求】：**
- 工业工程、统计学、数据科学、计算机、应用数学等相关专业的学士及以上学历
- 自驱，具有较好的英文写作水平，对人工智能模型有热情
- 熟练使用 Python 或 R 语言

# Reliability estimation of medical equipment based on big data of Internet of Things

Project Description: In recent years, the Internet of Things of hospital medical equipment are gradually established. However, the reliability estimation of medical equipment based on the Internet of Things is still in the early stage. In this project, the anomaly and failure indicators of medical equipment will be extracted based on the multi-modal operation data of the medical equipment. Artificial intelligence models will be established to predict the occurrence time and severity of anomalies and failures of medical equipment. Our goal is to achieve intelligent prediction of medical equipment failures and anomalies through these studies and lay the foundation for intelligent and efficient management of medical equipment in medical institutions.

Job Description: We are looking for a scientific research assistant with a solid academic foundation, self-motivation, interest in medical engineering projects, and willingness to carry out research work. The ideal candidate should have a relevant background in statistics, data science, etc., and be passionate about working in the field of Medicine & Engineering Combination. Candidates will conduct literature review, data collection, data processing, model development and implementation. Candidates will collaborate with the PI and other team members on publishing academic papers in well-known journals. Through the Focused Research Extension Program (FREE), candidates will have the opportunity to acquire the professional and practical skills required to carry out research work, thereby increasing the likelihood of being admitted to a doctoral or master's degree program and the chance of obtaining a long-term job in industry. The PI can recommend outstanding research assistants to study for a doctoral degree at well-known universities in the United States, Hong Kong and Mainland China.

This position commences in or after early 2024, with individuals anticipated to initiate their responsibilities no later than Spring 2024. The term of employment spans two years, and the contract is structured for annual renewal.

Qualifications:
- Bachelor's degree or above in industrial engineering, statistics, data science, computer engineering, applied mathematics and other related majors.
- Self-motivated, with good English writing skills and enthusiasm for artificial intelligence models
- Proficiency in Python/R.


For questions regarding this position, please contact Dr. Changxi Wang, at changxi.wang@scu.edu.cn.