

# **Inference over Knowledge Representations Automatically Generated from Medical Texts with Applications in Healthcare Robotics**

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## **Abstract**

Many nations across the world, including the United States, face an impending shortage of trained medical professionals and personnel. The development of a robotic healthcare assistant would help alleviate this ongoing shortage in healthcare workers. For a robotic healthcare assistant to be useful, it must facilitate human-like interactions and maintain contextual understanding of its environment. In this work, we take steps toward endowing healthcare assistant robots with the ability to anticipate the equipment needs of healthcare providers without being explicitly asked. We utilize an automatically formulated knowledge representation from web-based knowledge bases paired with a traversal algorithm to achieve these objectives. Equipped with a proper knowledge base and rule-based traversal algorithm, our robot will have the ability to retrieve relevant related information given a medical condition or symptom.