# Article information:

Learning intraoperative organ manipulation with context-based reinforcement learning | SpringerLink  
<https://link.springer.com/article/10.1007/s11548-022-02630-2>

# Article summary:

1. This article presents a new Reinforcement Learning (RL) framework, rlman, for automation of sub-tasks during robotic surgery.

2. The framework is designed to support both low- and high-dimensional state information to solve surgical sub-tasks in a simulation environment.

3. Experiments are conducted using the Pneumatic Attachable Flexible (PAF) rail system to train RL agents to solve four different surgical sub-tasks involving manipulation skills.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy as it provides detailed information about the development of the rlman framework for automation of sub-tasks during robotic surgery. The authors provide evidence for their claims by conducting experiments with the PAF rail system and comparing the results with state-of-the-art benchmarks found in the literature. Furthermore, they evaluate the ability of the agent to generalise over different aspects of the targeted surgical environment.

The article does not appear to have any biases or one-sided reporting as it presents both sides equally and does not promote any particular point of view or opinion. It also does not contain any unsupported claims or missing points of consideration as all claims are backed up by evidence from experiments conducted with the PAF rail system. Additionally, there is no promotional content present in this article as it focuses solely on providing an overview of the development and evaluation of rlman framework for automation of sub-tasks during robotic surgery.

# Topics for further research:

* Robotic Surgery Automation
* Robotic Surgery Sub-tasks
* PAF Rail System
* Reinforcement Learning Agents
* Surgical Environment Generalisation
* Robotic Surgery Performance Evaluation

# Report location:

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