

# A Reinforcement Learning Assistant for Patient-Centric Decision Making

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## Improving outcomes for critically ill patients w/ RL

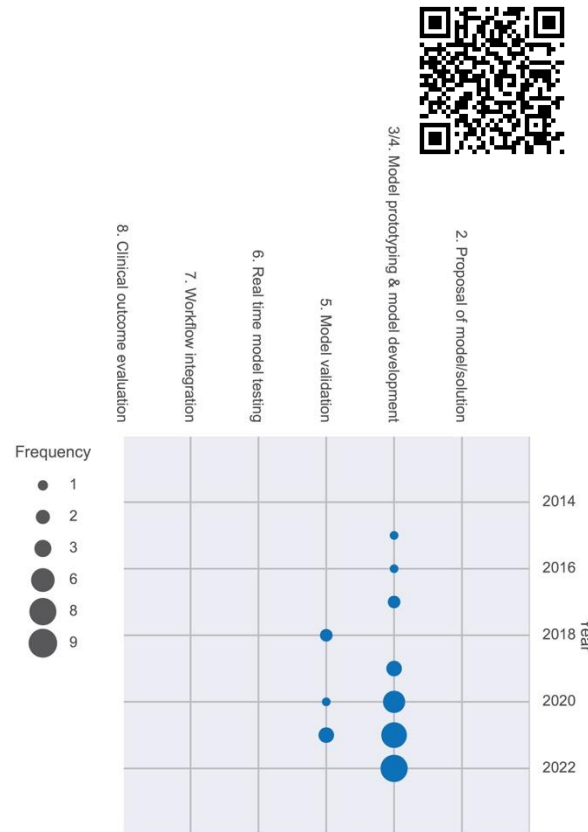
Has RL has had any **real-world impact** in critical care yet?

Systematic literature review

No, systems stay in model validation stage

Need to move to **prospective safety testing**

Critical Care Medicine



## Fast and Accurate User Intent Recognition

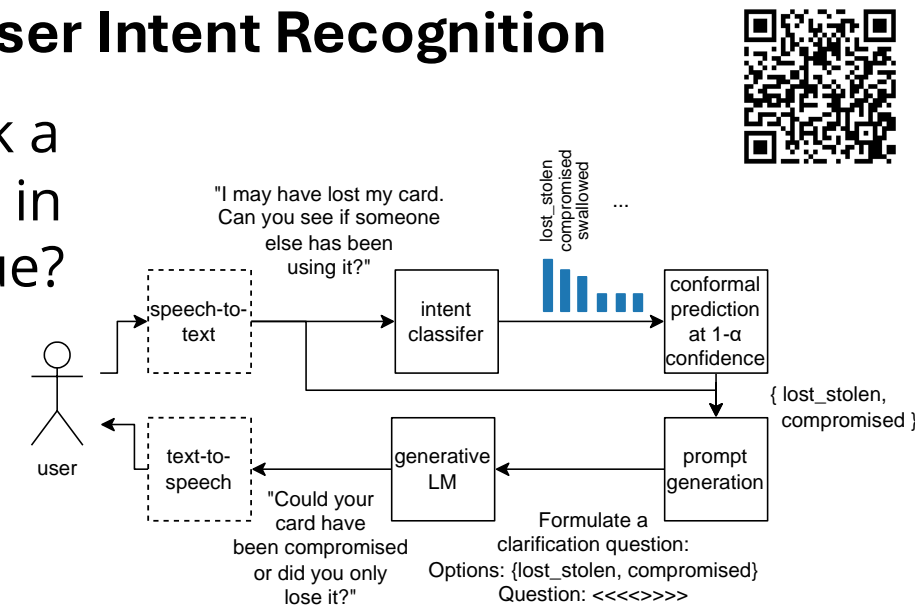
How and when to ask a **clarification question** in task-oriented dialogue?

Algorithm

Combine **conformal prediction** with LLM

Faster **understanding** of user needs

Connections, Collaborations & Data



## Lifestyle Change Support for Diabetes

How to **integrate** dialogue, information extraction, and reasoning for diabetes life-style support?

Proof-of-Concept/Demo

Five modular **components**

Test with LLM simulation, **personalize with RL**



Dataset(s) on oncology treatment and quality of life

Looking ahead.....

Multi-user multi-objective RL

Multi-objective **single-policy** RL

An **interpretable quantile regression** model

SHARPIE: experiments on human-RL collaboration