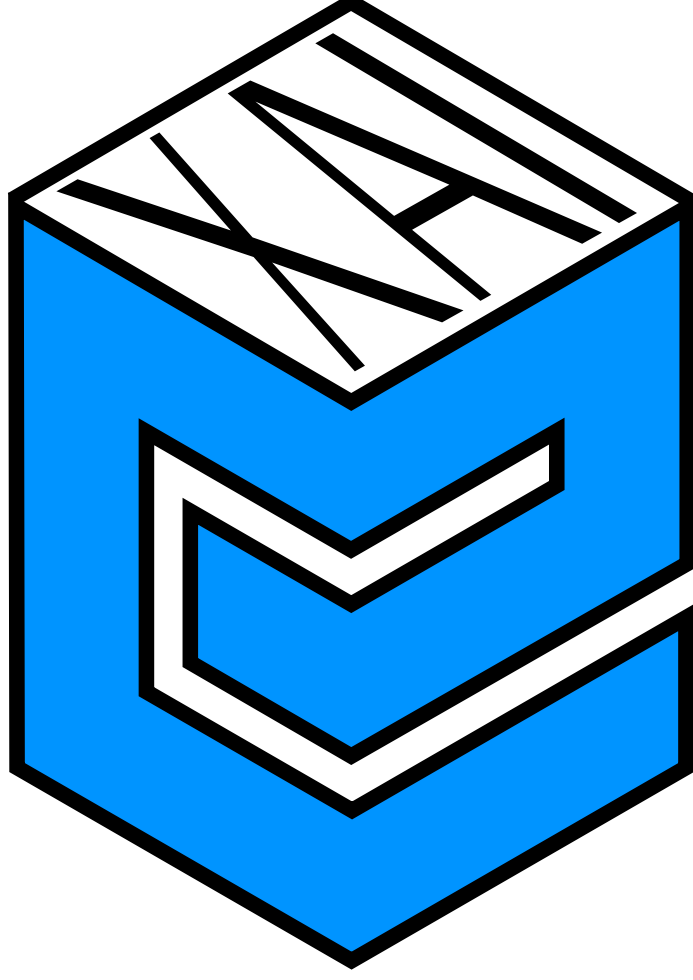
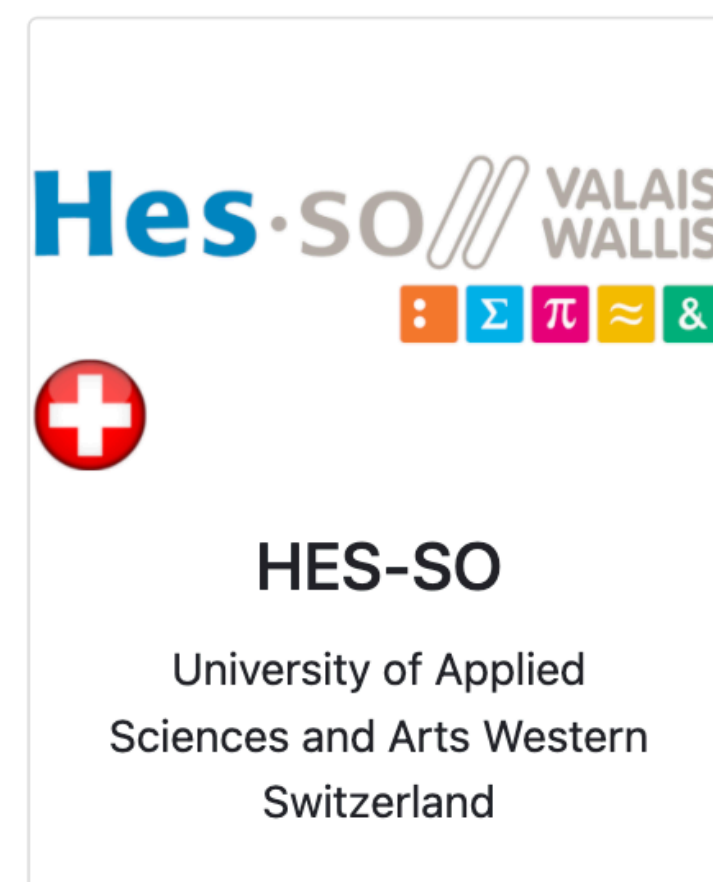
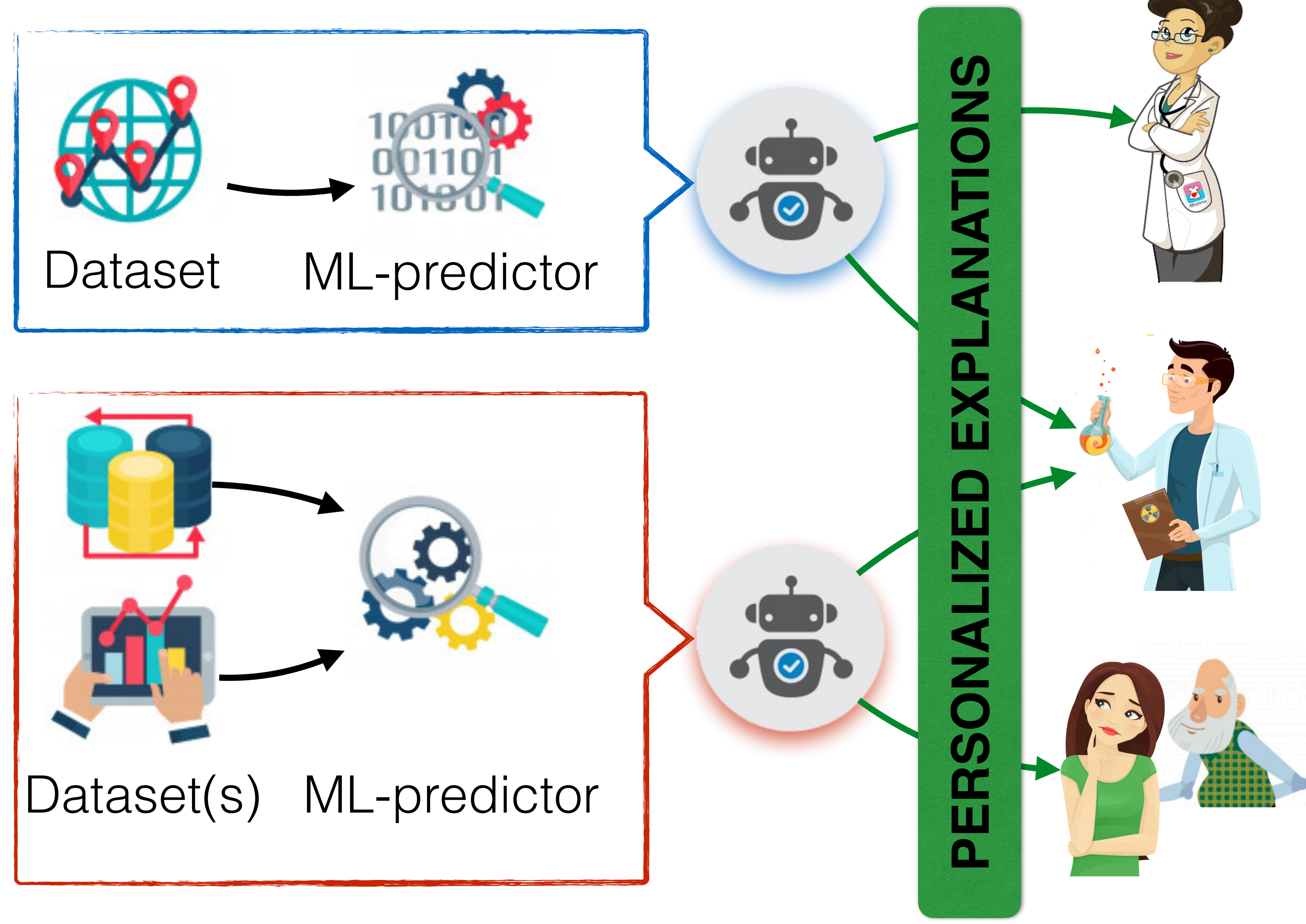


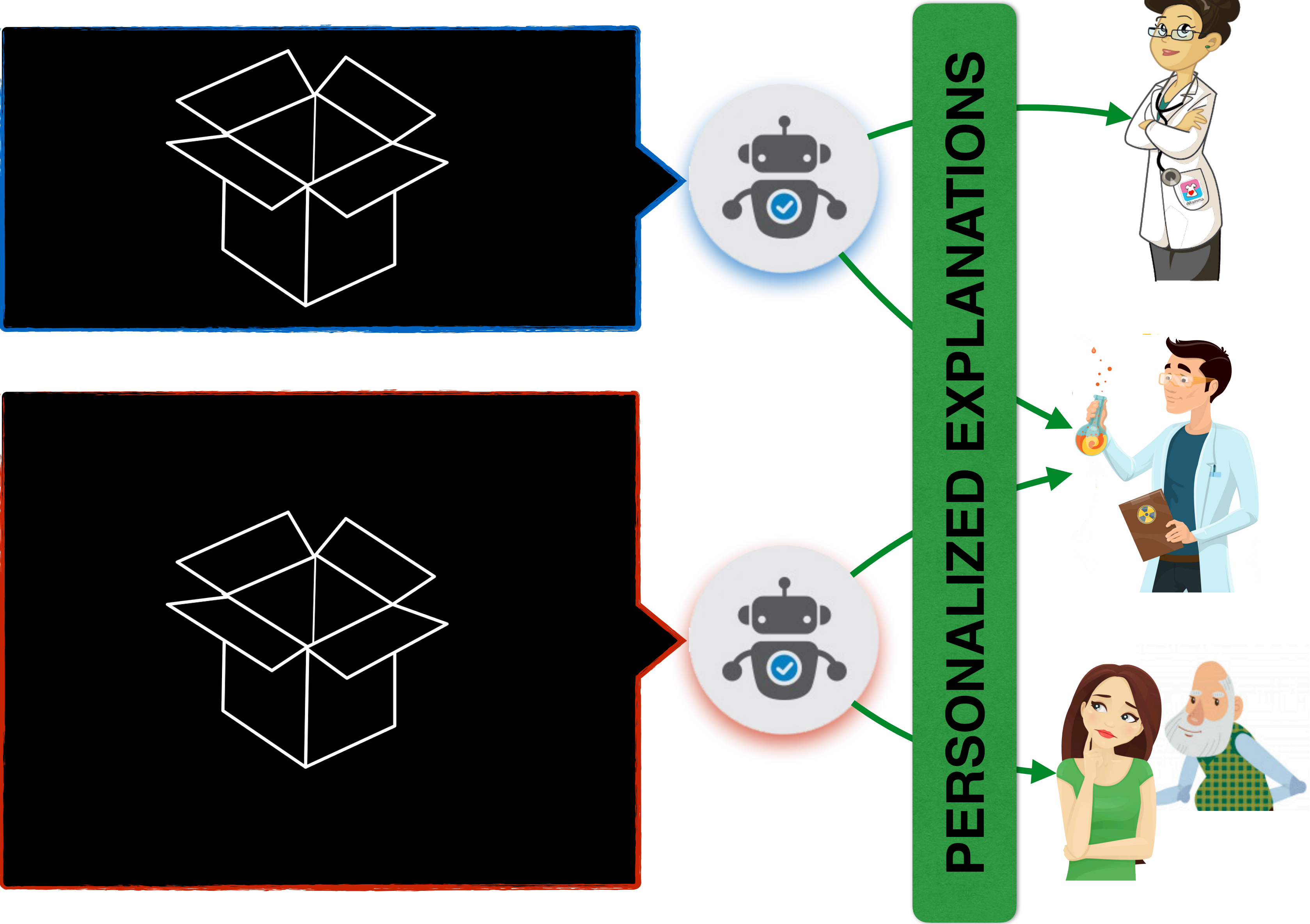


XPECTATION

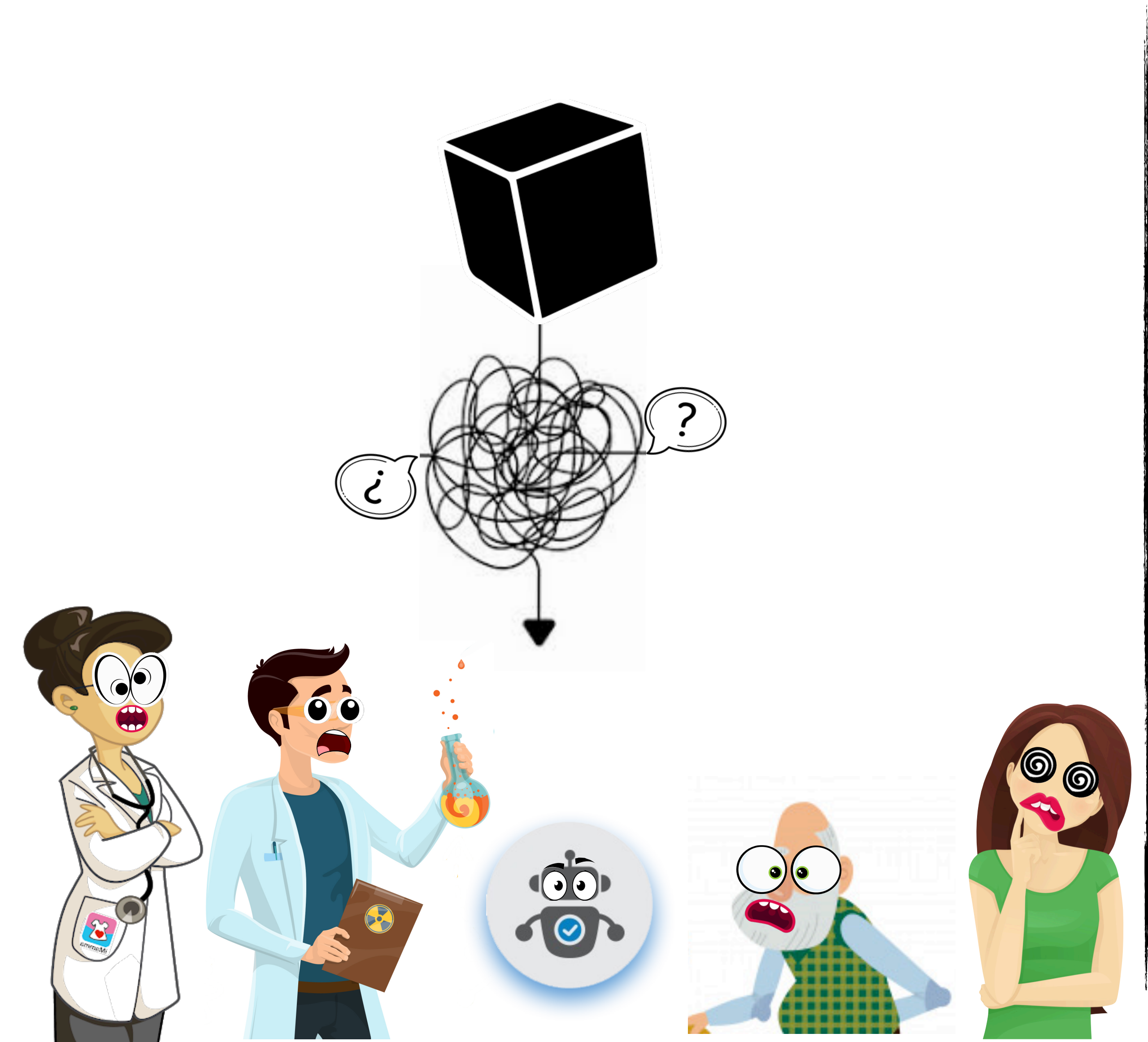
PERSONALIZED EXPLAINABLE ARTIFICIAL INTELLIGENCE FOR
DECENTRALIZED AGENTS WITH HETEROGENEOUS KNOWLEDGE



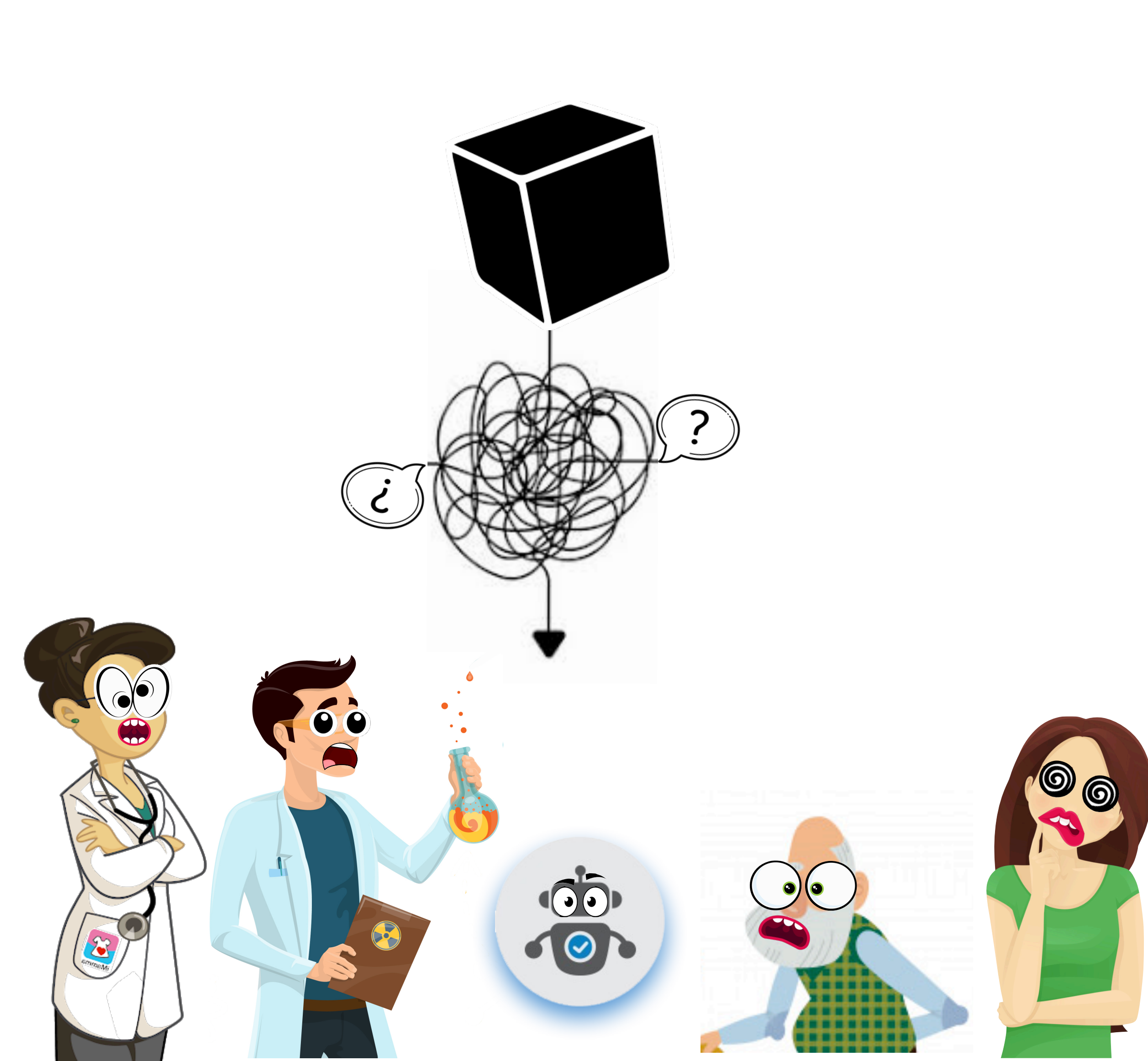




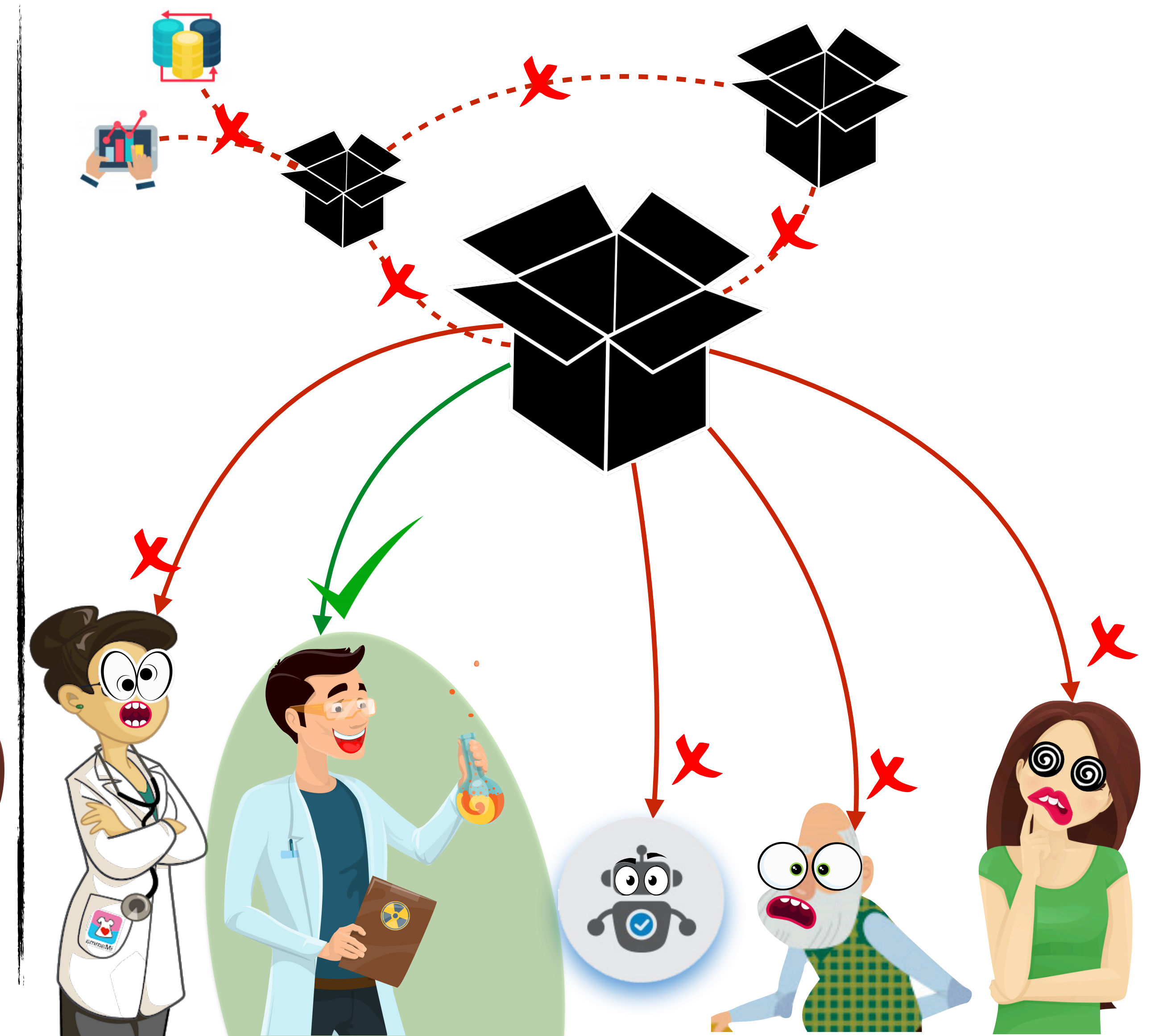
No XAI



No XAI



XAI, but...



XAI, but...

Heterogeneous knowledge **integration**

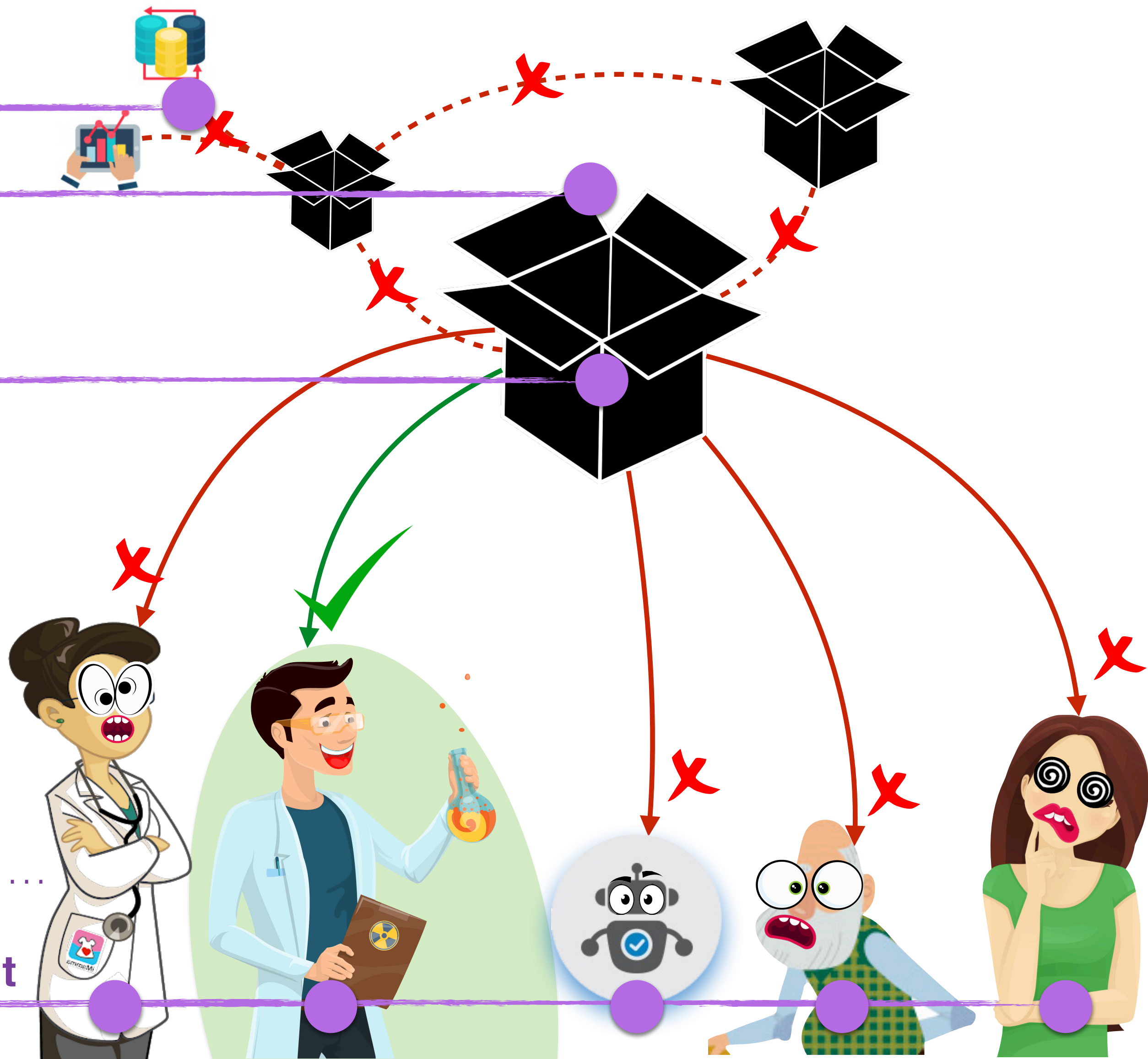
Explanation reconciliation in **decentralized** environment

Explainable agent-based models **embedding** ML predictors

Multimodal explanations for diverse backgrounds, contexts, ...

Explanations **validation**

Explanations' transparency, ethical, and fairness **assessment**



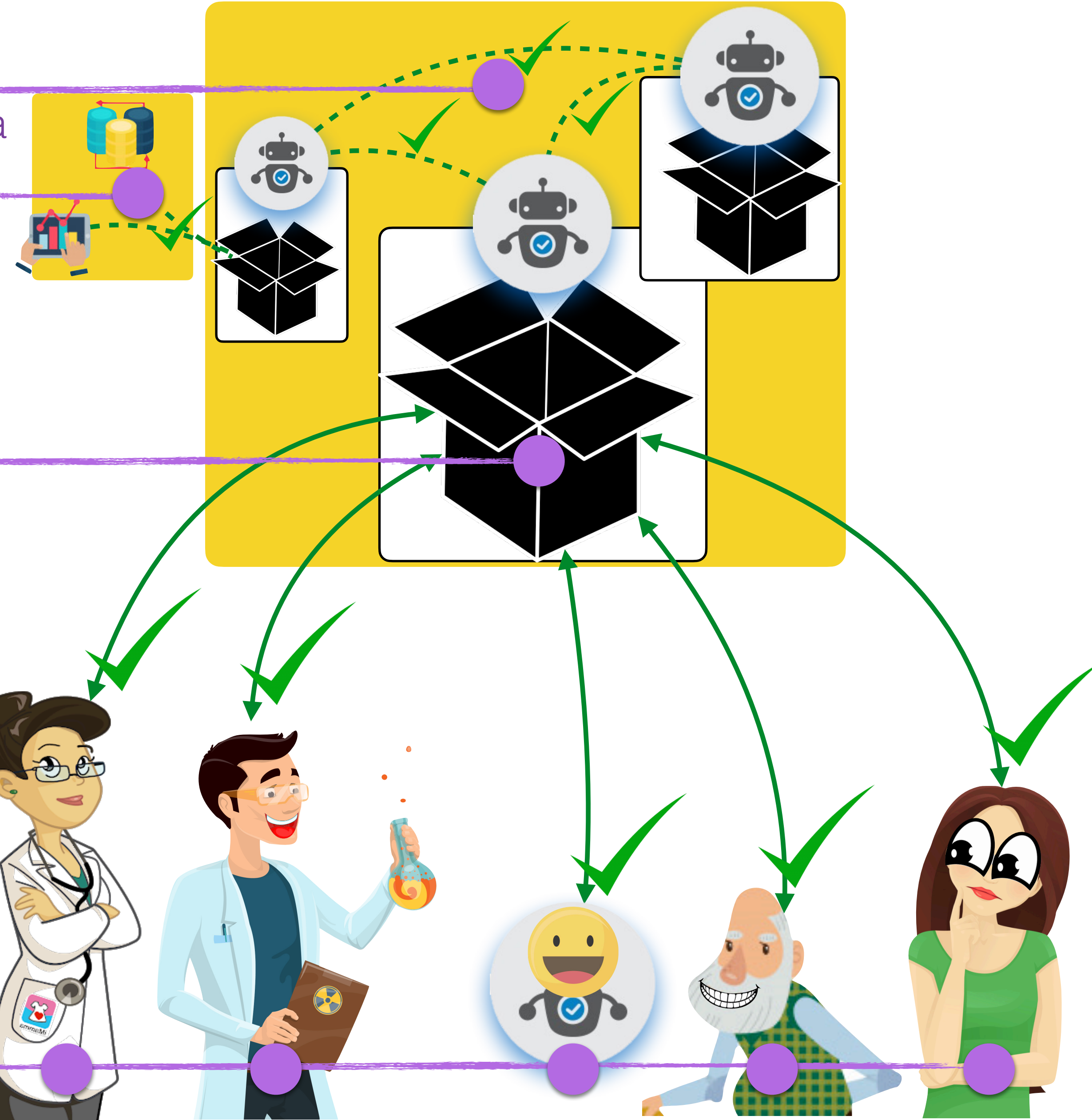
Expected Outcomes

XAI via negotiation
and argumentation

Heterogeneous data
integration

Framework for
explainable agents

Personalized XAI



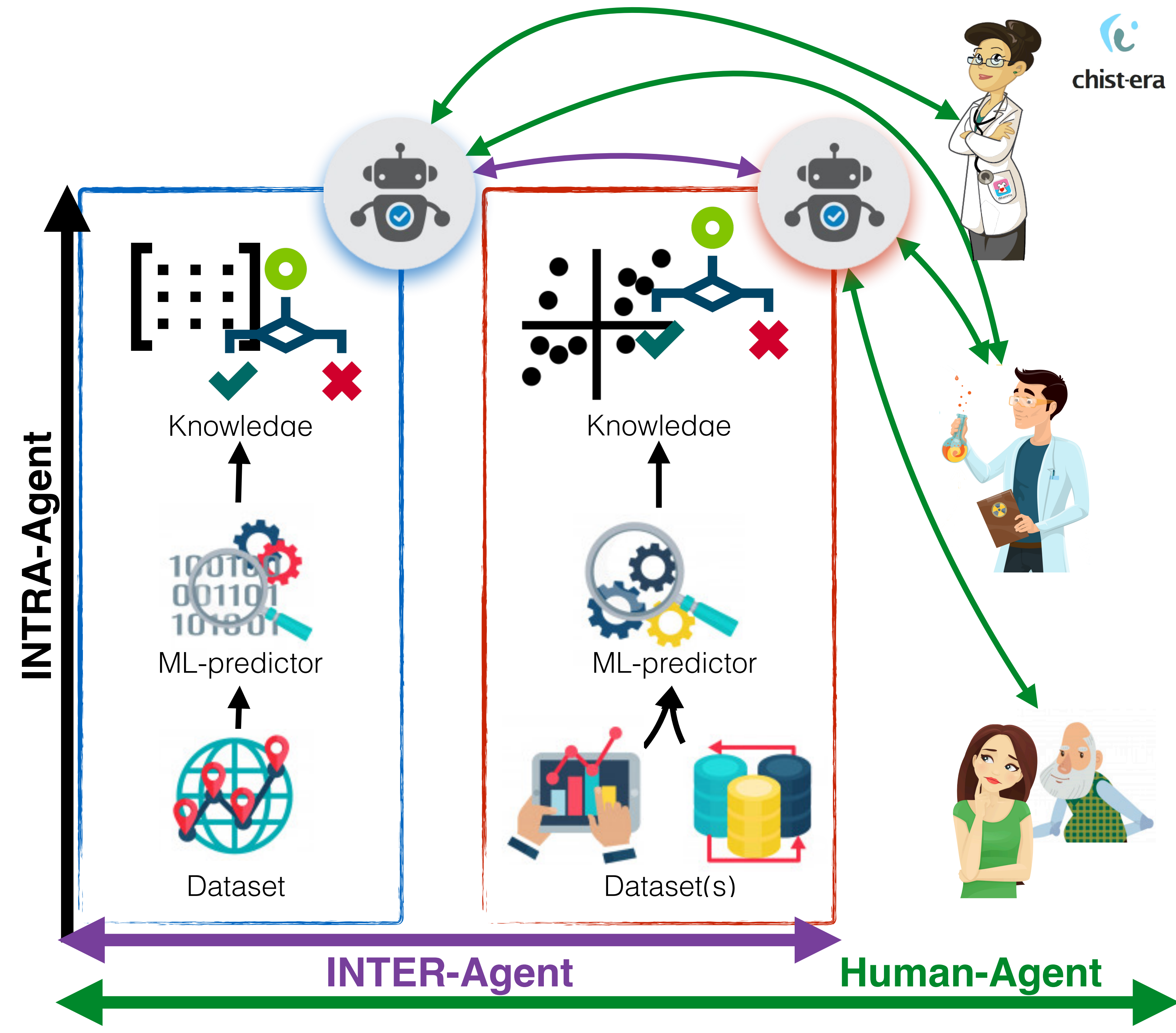
Impact

Theoretical outcomes

Mechanisms to extract, combine, explain and negotiate heterogeneous symbolic knowledge

Technological outcomes

Explainable-by-design systems can boost trust and transparency (imperative in many domains)
Widening the adoption of AI-based systems in the real-world



Impact

Theoretical outcomes

Mechanisms to extract, combine, explain and negotiate heterogeneous symbolic knowledge

Technological outcomes

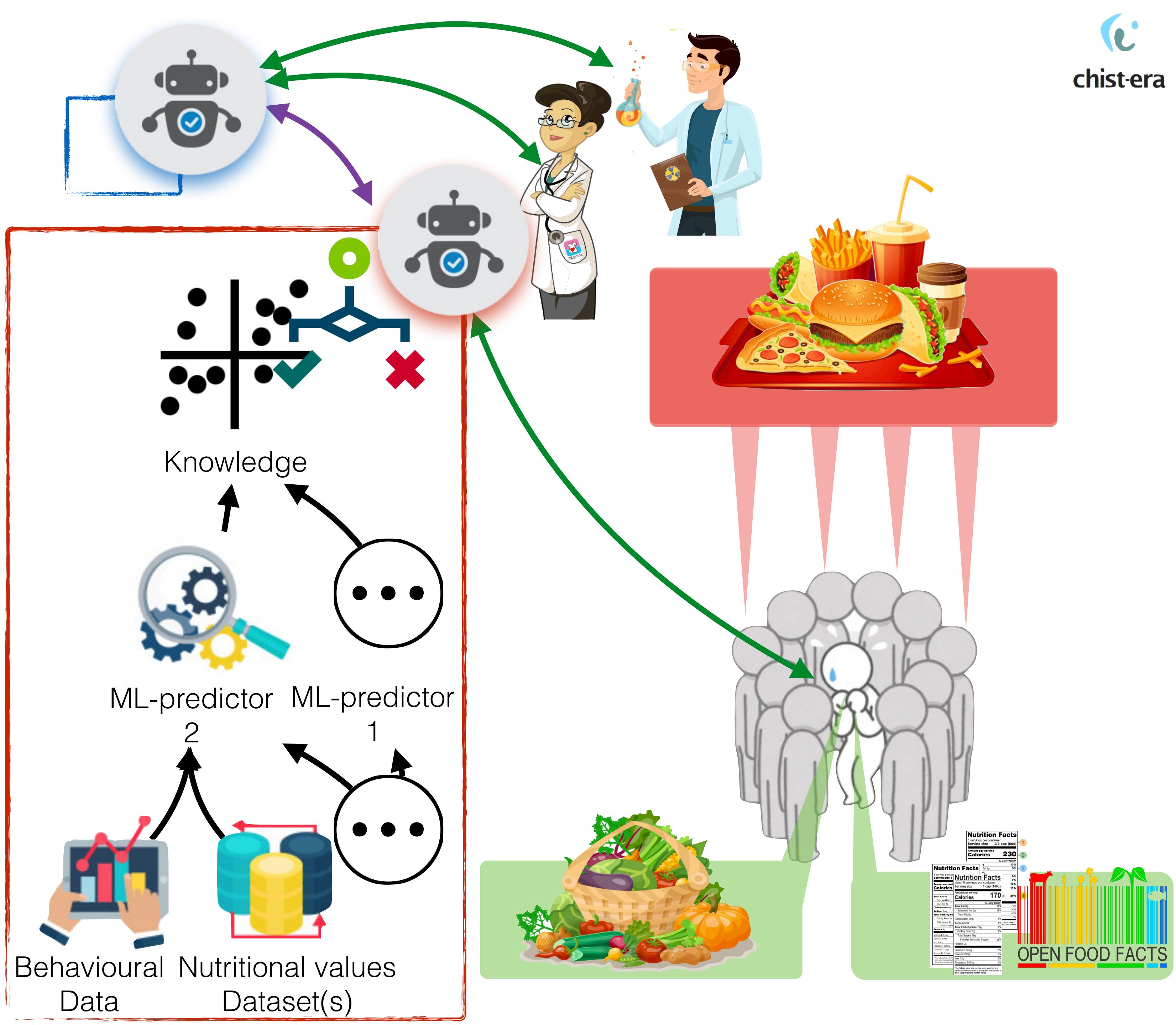
Explainable-by-design systems can boost trust and transparency (imperative in many domains)
Widening the adoption of AI-based systems in the real-world

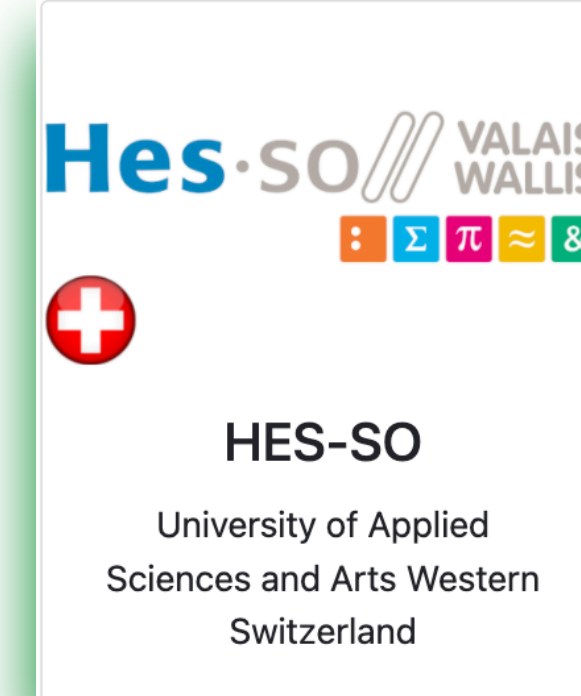
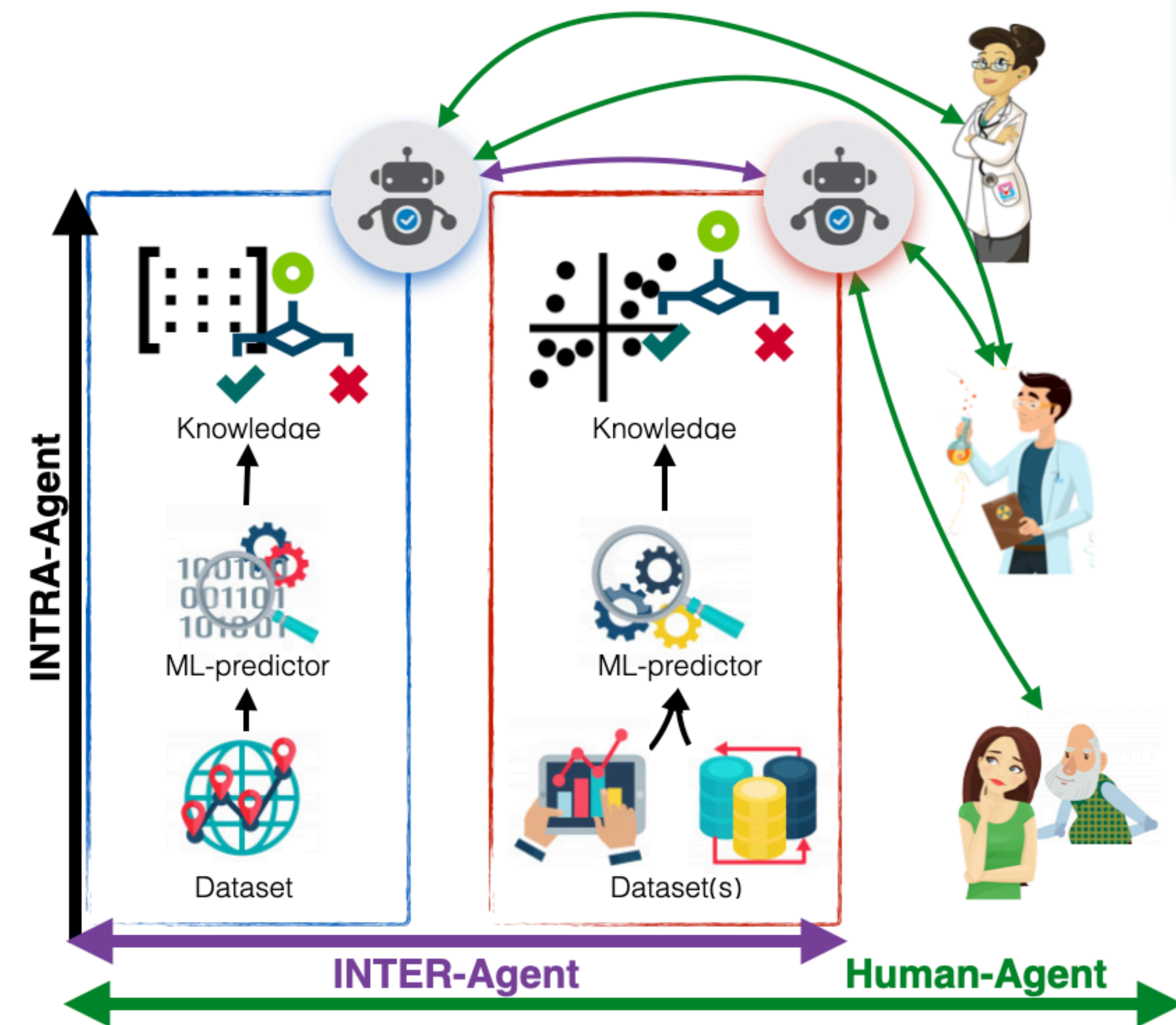
Application domain

Explain recommendation in eHealth and wellbeing application is strategical to boost Acceptance and understanding, henceforth therapy adherence

Ethical aspects

Enabling algorithmic assessment in terms of fairness and transparency, given the sensitive nature of the input data and the possible effects of the outcomes





Coordinator
Personalization of the explanation,
Ontology-based **symbolic representations**,
Explanations **integration**,
Transparency assessment,
Ethical assessment and **Testing**

Symbolic knowledge **injection/extraction**
Mechanisms **generalization**
Architectural **requirements**
Transparency assessment
Privacy & data management concerns

User modelling
Agent-based **profiling**
Multimodal explanation and communication
Prototype **reconciliation** and **validation**
Ethical assessment and **Testing**

Symbolic explanation **negotiation**
Dialogic **argumentation**
Transparency assessment
multi-stakeholder **conflict resolution**
Ethical assessment

**OpenAccess
scientific papers**



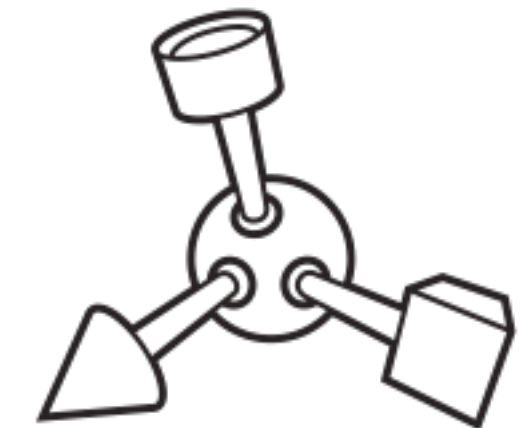
**BSD Licensed
SourceCode**



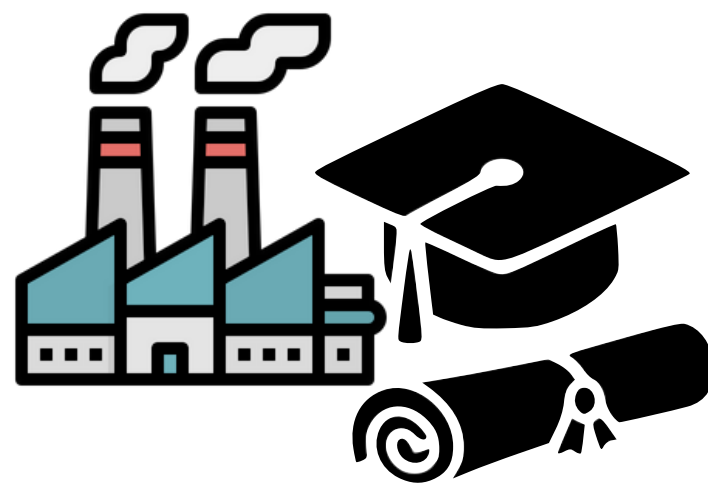
**API for software
Integration**



**Working
prototype**



Networking Events



<http://expectation.ehealth.hevs.ch/>

Dissemination Panels



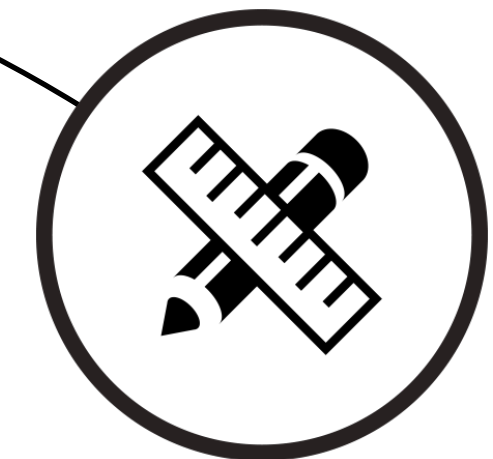
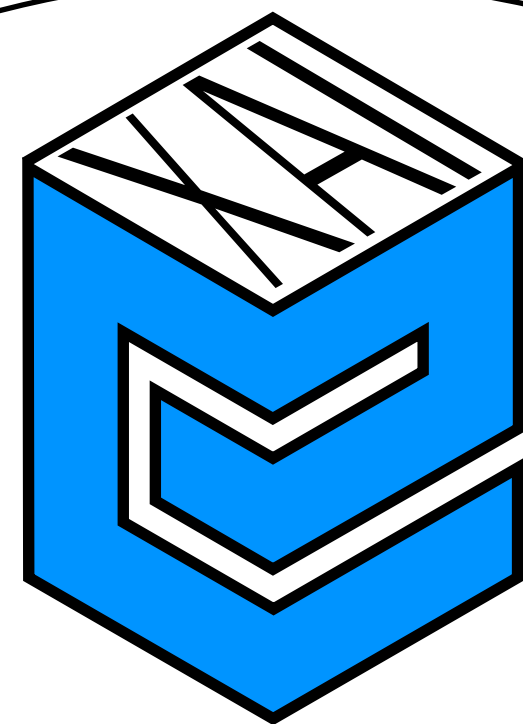
<https://extraamas.ehealth.hevs.ch/program.html>

4 May 2021

Personalized, transparent, and ethical
eHealth & wellbeing applications

New Theories for
XAI, ML, and MAS

XAI-by-design for
(sub)symbolic AI



XPECTATION

PERSONALIZED EXPLAINABLE ARTIFICIAL INTELLIGENCE FOR
DECENTRALIZED AGENTS WITH HETEROGENEOUS KNOWLEDGE

