ANR ExTra-Learn

Extraction and Transfer of Knowledge in Reinforcement Learning

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ANR Réunion de lancement projets, Paris

SequeL

INRIA Lille – Nord Europe

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Consortium

ANR "*Jeunes Chercheurs Jeunes Chercheuses*" Programme

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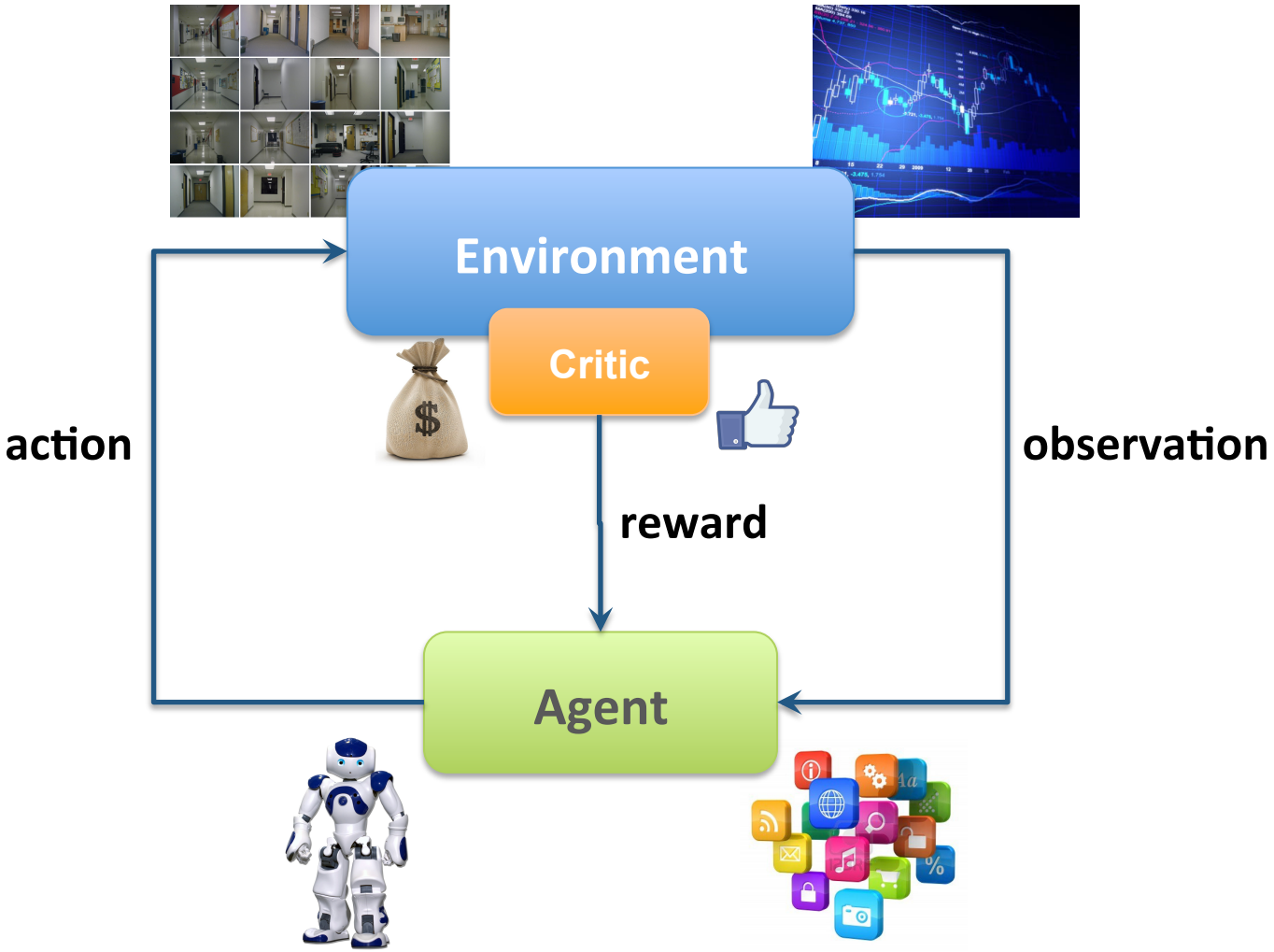
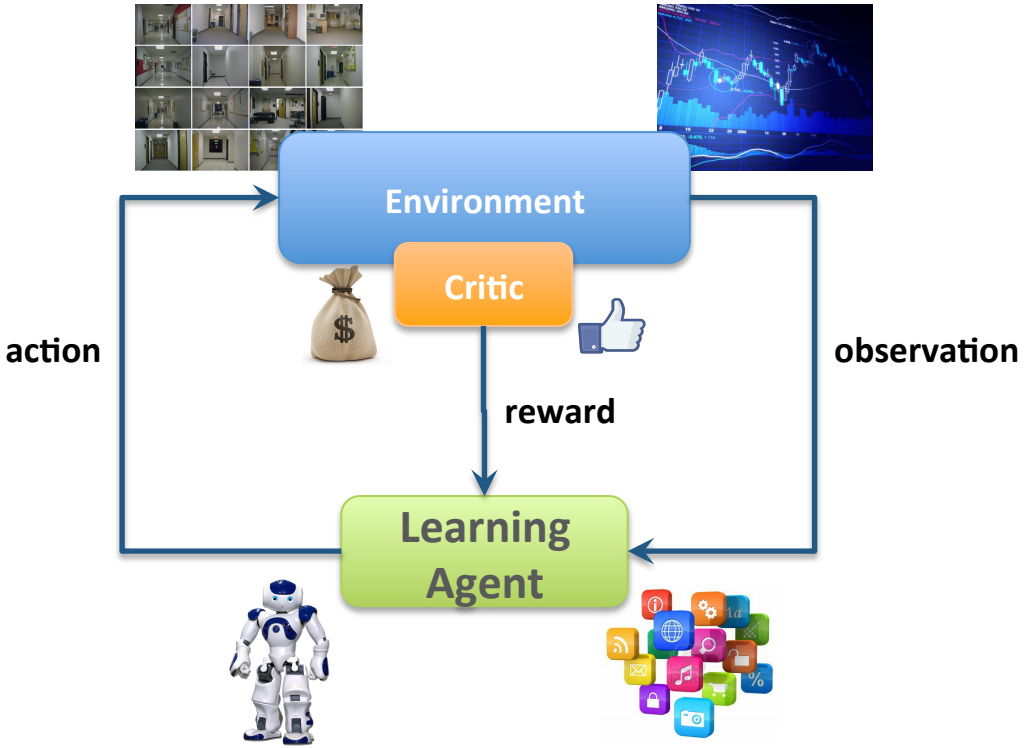
Reinforcement Learning

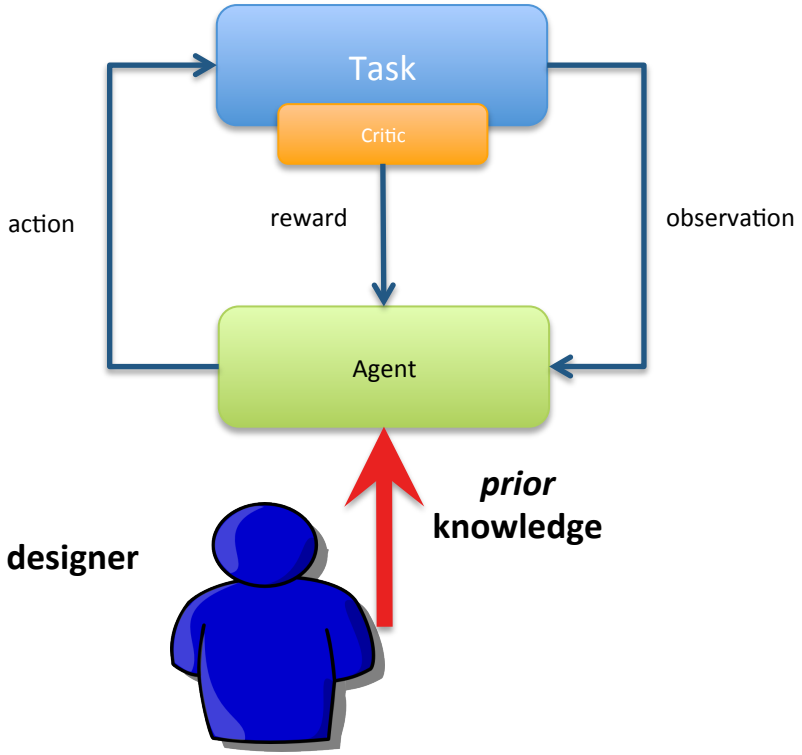


Reinforcement Learning

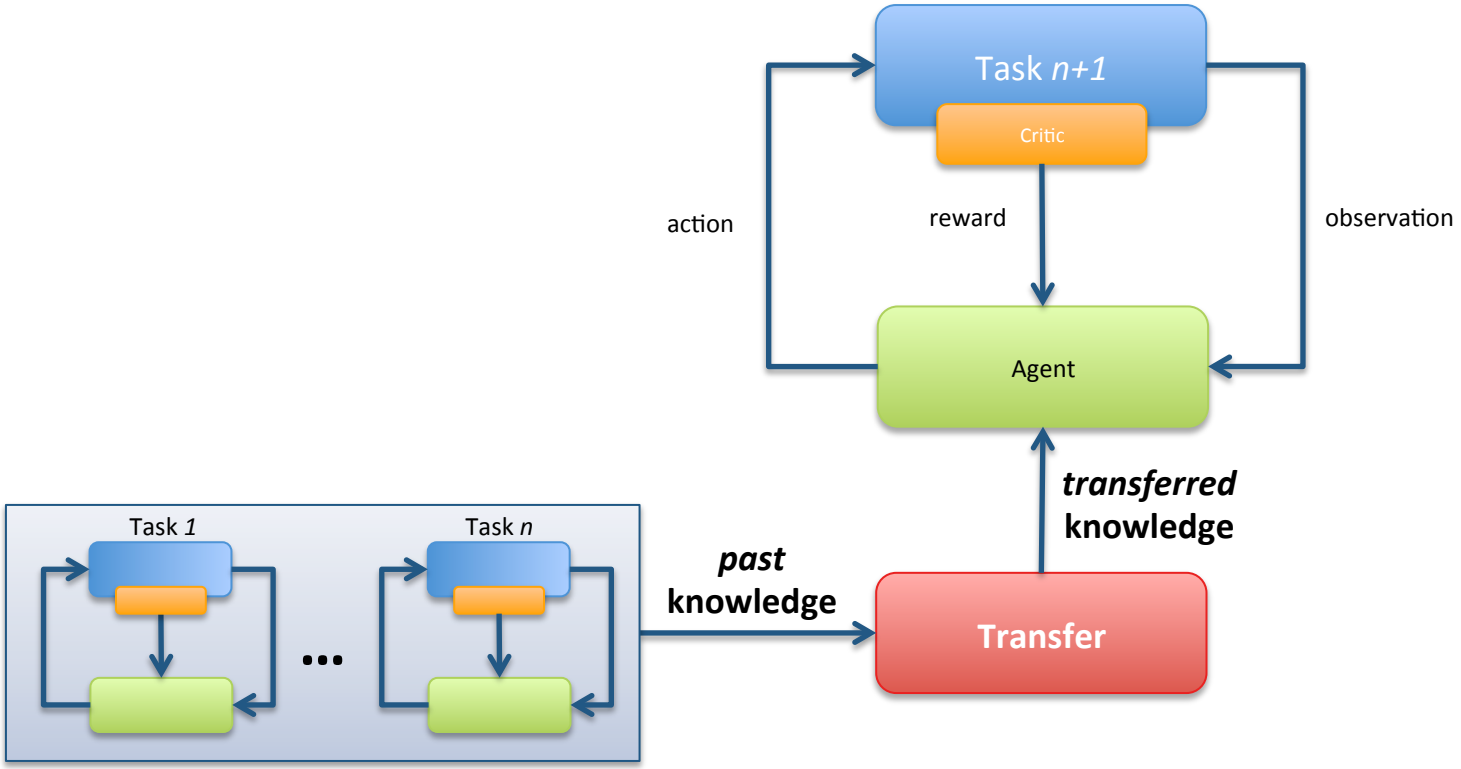


Learning of a behavior strategy (a policy) which maximizes the long term sum of **rewards** (delayed reward) by a **direct interaction** (trial-and-error) with an **unknown** and uncertain **environment**.

Reinforcement Learning



Transfer in Reinforcement Learning



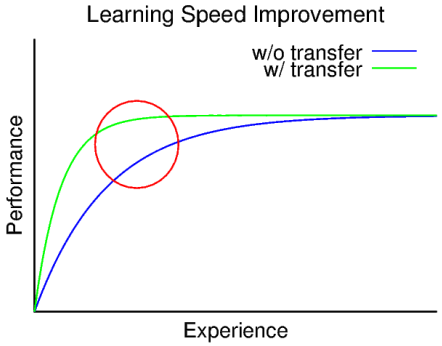
Transfer of knowledge **across tasks** to **improve** the performance of the learning process

Objectives

ExTra-Learn
(2014-2017)

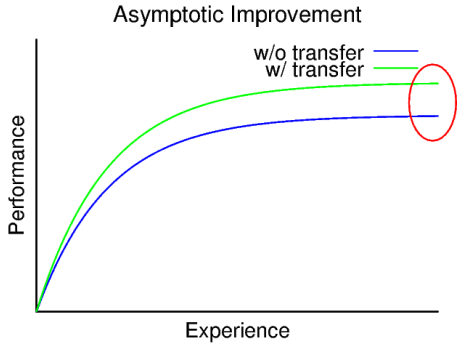
Objective 1

Reduce sample complexity



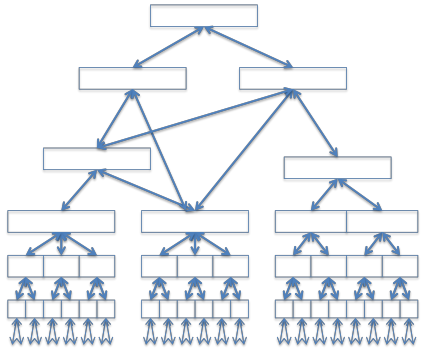
Objective 2

Improve accuracy

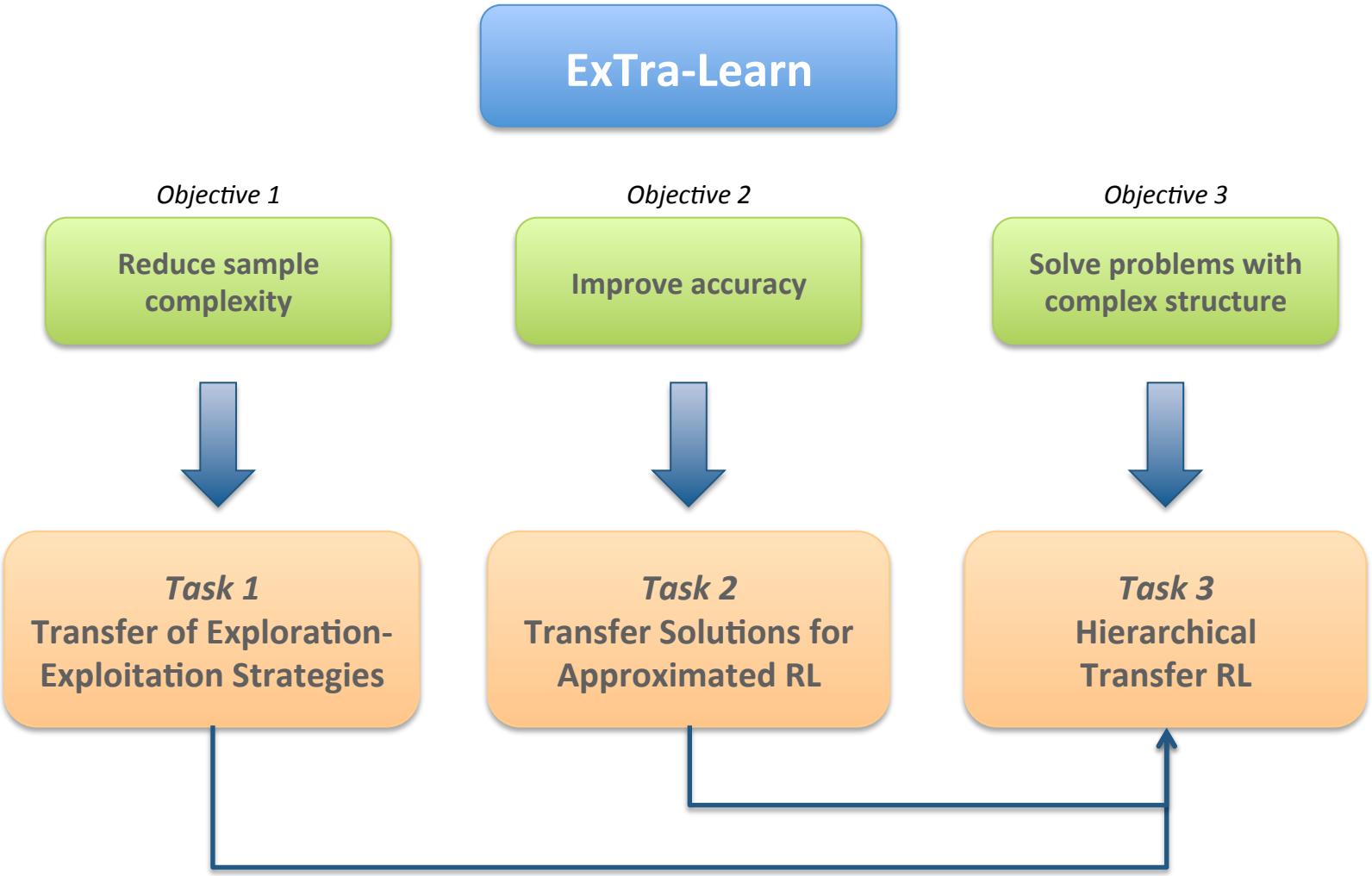


Objective 3

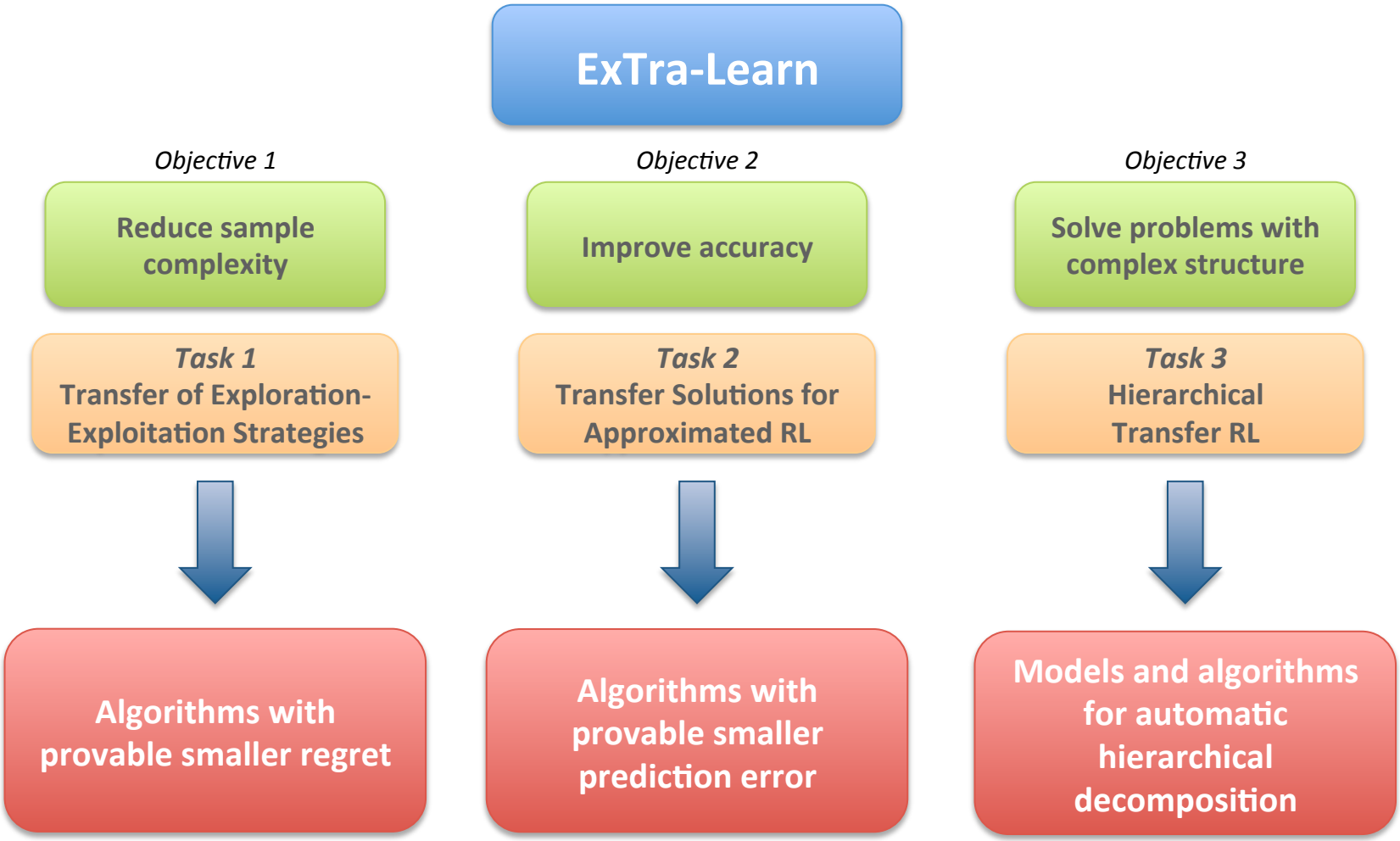
Solve problems with complex structure



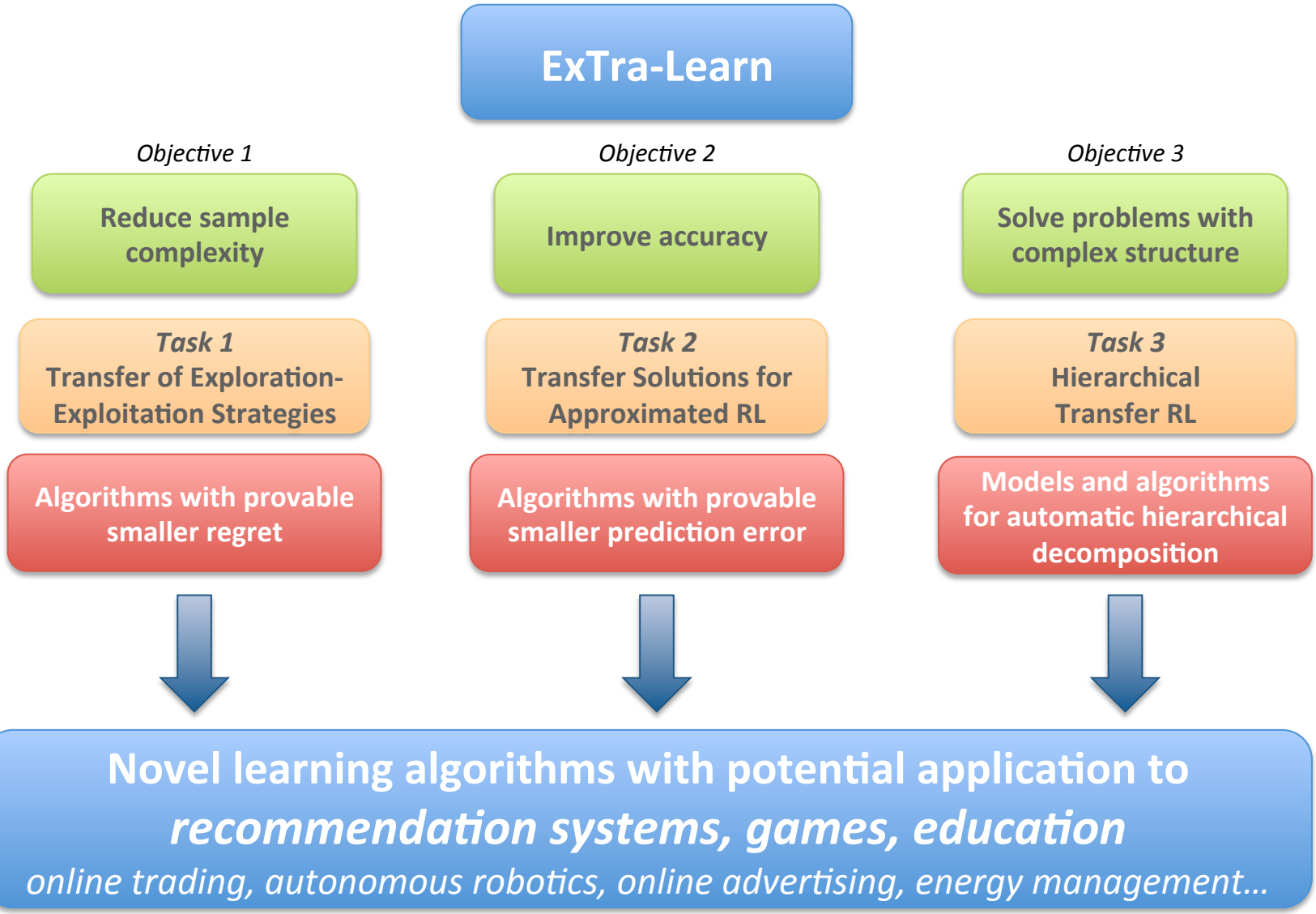
Tasks


ExTra-Learn
Objective 1
Reduce sample complexity
Objective 2
Improve accuracy
Objective 3
Solve problems with complex structure
Task 1
Transfer of Exploration-Exploitation Strategies
Task 2
Transfer Solutions for Approximated RL
Task 3
Hierarchical Transfer RL

Expected Results



Expected Impact



ExTra-Learn

https://project.inria.fr/ExTra-Learn/
(under construction)

Agence Nationale de Recherche (ANR)
Paris

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