

# Machine Learning, Decision-making and Stochastic Control

## The Project

We are looking for applicants for a fully funded Phd in the areas of Machine Learning, decision-making and stochastic control. Recent progress in Artificial Intelligence has allowed computer scientists to solve problems that were considered unsolvable only a decade ago. The combination of Machine Learning, decision-making and stochastic control is at the heart of this success. In this project, the student will have the opportunity to master the latest techniques in reinforcement learning (RL) and contribute to design novel RL algorithms using deep learning (i.e., deep reinforcement learning) and probabilistic methods in Machine Learning (e.g, Bayesian inference or information theory). Possible topics of the project are meta-learning, meta-control and hierarchical aspects of RL, aiming at the design of agents with limited computational resources that can solve complex tasks in real-time scenarios. The applications used to benchmark the developed algorithms will include computer games or (simulated) robotic scenarios such as manipulation or intelligent autonomous vehicles.

## Requirements

We are looking for a student who is motivated and passionate about Artificial Intelligence. A background in computer science or mathematics, together with strong programming skills, are essential requirements. Experience in reinforcement learning, deep learning or robotics are desirable and will be considered a plus during the selection process. The applicant will be expected to disseminate her/his work publishing scientific articles and/or participating at international conferences. To be fluent in English is mandatory.

## Application

Interested applicants should contact Dr. Nicola Catenacci Volpi (n.catenacci-volpi@herts.ac.uk) to discuss the project, the PhD program at the University of Hertfordshire and details of the application process.