

Postdoctoral

Ecole/Institution/Société:
CEA TECH, France / Grenoble

Discipline:
Machine Learning

Type d'emploi::
Full-time

Date de publication:
2020-05-07

Personne à contacter:
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PhD position - Formal Specification for Machine Learning Algorithms

Job: SL-DRT-20-0764

Research Field: Artificial intelligence & Data intelligence

Abstract

Machine Learning techniques, Neural Networks in particular, are going through an impressive expansion, permeating various domains from autonomous vehicles to judicial and medical assistance. This effervescence, however, may hold more than benefits, as it slowly but surely reaches critical systems such as autonomous transportation, robotics, or banking.

Indeed, the remarkable efficiency of neural nets comes at a price: weakness to adversarial perturbations, lack of formal specification of desired NN properties, behavioral unpredictability.

Recent efforts aim at adapting the plethora of methods that help validate "traditional" software to Machine Learning. This thesis follows this line of research by focusing on an essential component of the V&V discipline: formal specifications. In other words, under what form the properties of an AI system can be expressed so as to be readily "understood" by a computer. This thesis is complementary to another thesis that already started in our lab, that focuses on verification technologies.

Location

Département Ingénierie Logiciels et Systèmes (LIST)

Laboratoire pour la Sécurité du Logiciel

Saclay

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Job Details:

Title: PhD position - Formal Specification for Machine Learning Algorithms

Employer: CEA Tech

Job types: PhD

Fields: Artificial Intelligence, Artificial Neural Network, Data Mining, Big Data, Machine Learning

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