

Real-world Applications of Symbolic Regression

Gabriel Kromberger
University of Applied Sciences of Upper Austria

Facultad de Informática
Sala de Grados - martes 27 de noviembre de 2018 - 13:00
Entrada libre hasta completar el aforo

Resumen:

In symbolic regression, we try to find a simple formula to predict the values of a dependent variable from known values of independent variables. Machine learning methods for symbolic regression search the space of possible expressions which can be constructed using basic mathematical operators and functions and optimize numerical parameters of expression based on given input data. Most commonly genetic programming is used to solve this task. However, when we try to apply this method in real-world applications we find that this approach is limited in several ways (non-determinism, high computational effort, bloated formulas, bad interpolation and even worse extrapolation). In this talk I will discuss possible solutions to these issues which we have developed in our recent research.

Sobre Gabriel Kromberger:

Dr. Gabriel Kromberger is Professor for Business Intelligence and Data Engineering at the University of Applied Sciences in Upper Austria, Campus Hagenberg. His research is focused on applications of genetic programming in particular symbolic regression techniques for data-based modeling of complex technical systems. He is currently leading the Josef Ressel Center for Symbolic Regression in which new solution methods for symbolic regression problems are developed.