

Use of the industrial property system in Colombia (2018): A supervised learning application

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Abstract

The purpose of this paper is to establish ways to predict the spatial distribution of the use of the intellectual property system from information on industrial property applications and grants (distinctive signs and new creations) and copyright registrations in 2018. This will be done using supervised learning algorithms applied to information on industrial property applications and grants (trademarks and new creations) and copyright registrations in 2018. Within the findings, 4 algorithms were identified with a level of explanation higher than 80%: (i) Linear Regression, with an elastic network regularization; (ii) Stochastic Gradient Descent, with Hinge loss function, Ridge regularization (L2) and a constant learning rate; (iii) Neural Networks, with 1,000 layers, with Adam's solution algorithm and 2,000 iterations; (iv) Random Forest, with 10 trees.

Palabras clave

Spatial distribution, Distinctive signs, New creations, Supervised learning, Machine learning