# AUTOMATED EVALUATION MODELS in real estate market:
# A comparative analysis between linear regression and XGBoost

**Silviu-Ionuț BĂBȚAN** [1] **ORCID ID: 0009-0004-3496-7794**

**Abstract:** *The dynamic trend of the real estate market, as well as the rapid digitization process that has taken place recently, has created the need to identify techniques for automated property price valuation. This article aims to eliminate the problems of subjectivity and high resource consumption of traditional valuation by analyzing the practical implementation of automated valuation methods in the real estate market. Thus, the article performs a comparative analysis between classical prediction methods, such as linear regression, and complex prediction algorithms, such as XGBoost, which can be applied in real estate value prediction. By analyzing the accuracy of predictions on a sample of apartments in Cluj-Napoca, Romania, the study compares the two automatic valuation methods and draws the lines of their implementation. The results of this study can be used for the development of automatic valuation techniques at a global level.*

## KEY WORDS

*Real estate, mass appraisals, automated appraisal, valuation standards.*

**JEL Classification**: C88 Other Computer Software; R31 Housing Supply and Markets; R32 Other Spatial Production and Pricing Analysis. R 30 General Real Estate Markets, Spatial Production Analysis, and Firm Location-

---

[1] Accounting and Audit Department, Faculty of Economics and Business Administration, Babeș-Bolyai University, Cluj-Napoca, Romania
Email: silviu.babtan@econ.ubbcluj.ro