

Urban Big Data: An Experimental Approach to Building-Value Estimation Using Web-Based Data

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Abstract : Current real-estate value estimation, difficult for laymen, usually is performed by specialists. This paper presents an automated estimation process based on big data and machine-learning technology that calculates influences of building conditions on real-estate price measurement. The present study analyzed actual building sales sample data for Nonhyeon-dong, Gangnam-gu, Seoul, Korea, measuring the major influencing factors among the various building conditions. Further to that analysis, a prediction model was established and applied using RapidMiner Studio, a graphical user interface (GUI)-based tool for derivation of machine-learning prototypes. The prediction model is formulated by reference to previous examples. When new examples are applied, it analyses and predicts accordingly. The analysis process discerns the crucial factors effecting price increases by calculation of weighted values. The model was verified, and its accuracy determined, by comparing its predicted values with actual price increases.

Keywords : apartment complex, big data, life-cycle building value analysis, machine learning

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