

# EARLY-WARNING MODEL OF EXCESS CONSUMPTION IN COLLEGE STUDENTS BY KPAG METHOD DURING THE COVID-19 EPIDEMIC

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## ABSTRACT:

With the arrival of COVID-19, some areas are under closed management, bringing about changes in the way people consume. It also leads to the excessive consumption of some people, especially college students. In order to give early warning to unreasonable consumption behavior, this study designed KPAG algorithm to give early warning to consumption risk. Using particle swarm optimization (PSO) kernel principal component analysis (KPCA) parameter optimization, optimal polynomial kernel to delete data information, and ant colony genetic algorithm (association) clustering analysis of data dimensionality reduction, according to the consumption

behavior of college students are divided into three categories, for the consumption behavior of college students to build an early warning model. Through the classification and verification experiment of real data, the results show that compared with the traditional PCA data fitting method, the accuracy of the model in this paper can reach 90%, which is more reliable than the traditional algorithm, and the accuracy of the model is improved by nearly 20%, which can be used for effective early warning.

**Keywords:** data science in education, consumption risk, KPAG algorithm, early-warning model

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## Biography

Dr Bin Zhao has Quality Classification and Evaluation of Human-Machine Composite Translations of Scientific Text Based on KPCA, 2020 IEEE.

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