

Quantitative Analysis and Interdisciplinary Research on Applied Mathematics

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INTRODUCTION

The increasing use of mathematical techniques in research project results in the knowledge base of maths. This viewpoint is valid quantitatively here by applied math and network analysis on the corpus PNAS 1999-2013. A network describing the knowledge base relationships between disciplines in a very view is constructed supported the corpus. Specific network indicators show the hub role of maths in knowledge base analysis. The applied math analysis on the corpus content finds that algorithms, a primary topic of maths, completely correlates, progressively co-occurs, associate degreeed has an equilibrium relationship within the long-term with bound typical analysis paradigms and methodologies. The finding is understood as associate degree intrinsic explanation for the interdisciplinarity of maths [1].

We investigate the interdisciplinarity of arithmetic supported associate degree analysis of comes sponsored by the NSFC (National science Foundation of China). The motivation of this study lies in getting associate degree economical technique to quantify the analysis interdisciplinarity, revealing the analysis interdisciplinarity patterns of arithmetic discipline, giving insights for arithmetic students to enhance their analysis, and providing empirical supports for dogmas. Our knowledge set includes 6147 NSFC-sponsored comes enforced by 3225 arithmetic professors in 177 Chinese universities with established arithmetic departments. We have a tendency to propose the weighted-mean DIRD (diversity of individual analysis disciplines) to quantify interdisciplinarity. additionally, we have a tendency to introduce the matrix computation technique, discover many properties of such a matrix, and create the computation price considerably under the bitwise computation technique. Finally, we have a tendency to develop associate degree automatic DIRD computer system. The results indicate that arithmetic professors at high traditional universities in China exhibit sturdy interdisciplinarity; arithmetic professors ar presumably to conduct knowledge base analysis involving information processing (research department), applied science (research area), laptop application technology (research field), and installation bifurcation and chaos (research direction) [2].

This article analyses the impact of degree of interdisciplinarity on the citation impact of individual publications for four totally different scientific fields. We have a tendency to operationalise interdisciplinarity as disciplinary diversity within the references of a publication, and instead of treating interdisciplinarity as a monodimensional property,

we have a tendency to investigate the separate impact of various aspects of diversity on citation impact: i.e. variety, balance and inequality. we have a tendency to use a Tobit regression model to look at the impact of those properties of interdisciplinarity on citation impact, dominant for a spread of variables related to the characteristics of publications. we discover that selection features a positive impact on impact, whereas balance and inequality have a negative impact. Our results any qualify the separate impact of those 3 aspects of diversity by remarking that every one 3 dimensions of interdisciplinarity show a curvilinear (inverted U-shape) relationship with citation impact. These findings is taken in 2 alternative ways [3].

The goal of this report is to debate academic approaches for bridging the various views of the physiological and mathematical disciplines. These approaches will enhance the training expertise for physiology, medical, and arithmetic students and at the same time act to stimulate mathematical/physiological/clinical knowledge base analysis. whereas physiology education incorporates arithmetic, via equations and formulas, it doesn't usually give a foundation for knowledge base analysis linking arithmetic and physiology. Here, we offer insights and concepts derived from knowledge base seminars involving mathematicians and physiologists that are conducted over the last decade. The approaches delineate here is used as templates for giving physiology and medical students insights into however subtle tools from arithmetic is applied and the way the disciplines of arithmetic and physiology is integrated in analysis, thereby fostering a foundation for knowledge base collaboration. These templates ar equally applicable to linking mathematical strategies with alternative life and health sciences within the academic method [4].

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