Complex Adaptive Systems Modeling

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Review of "CiteSpace: A Practical Guide For Mapping Scientific Literature" by Chaomei Chen

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Book details

Chen, C

CiteSpace: A Practical Guide for Mapping Scientific Literature

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Book page: http://cluster.ischool.drexel.edu/~cchen/citespace/books/

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Overview

One of the hallmarks of the current era is the availability of a wide assortment of scientific research in the form of peer-reviewed scientific literature. However, while the world has shrunk thanks to the almost global online connectivity, the expansion of the corpus of scientific literature is at such scales that the indices covering citations are often unable to keep up as noted by Larsen and von Ins (2010). Everyday, numerous research papers are submitted, peer-reviewed, and some, published. In this continually explanding digital universe, it can be quite intimidating for researchers to keep up with and locate trends and hot topics in peer-reviewed work. Understanding citations, authorship patterns, and more are topics of general interest of every research community, in general, and the Complex Adaptive Systems Modeling Community, in particular.

CiteSpace Chen (2006) has established itself as an excellent tool allowing researchers to identify key patterns in the dissemination and spread of scientific information. The tool uses various innovative techniques and algorithms for information visualization Jinxia (2011), exploration Wei et al. (2015), and conducting visual surveys Niazi and Hussain (2011). While, there is an existing supporting website for the tool, the CiteSpace

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community was really looking forward to a comprehensive book on the topic. As such, Prof. Chen's book on CiteSpace Chen (2016) is a very welcome addition.

Author

Dr. Chaomei Chen is a full Professor of Informatics at the Drexel University. He has published numerous books as well as articles. He has also served on the Editorial board of several key journal besides being the Editor-in-Chief of the "Information Visualization" journal.

Book review

Being a renowned expert and an accomplished author, Prof. Chen gets down to the point quickly. The book starts out with a brief introduction of why exactly is there a need for Citespace. It further gives an overview of the wide number of cases of use for the tool. The second chapter starts by introducing a selection of key concepts needed to undersand the software. These include citations, indexing, quality, and knowledge representation of complex domains. The third chapter gets the user started with Citespace. It also gives an overview of analyses such as Geographic, Dual-map, scientometric, structural, and temporal patterns. Finally, it quickly covers project and session management before giving an overview of result interpretation.

The fourth chapter has seven different demonstration projects ranging from research on terrorism to analyses of various language-specific databases. The fifth chapter moves on to creating and maintaining one's own dataset. Chapter 6 details landmark cases of CiteSpace usage such as in the domain of String Theory, Terrorism Research, Mass Extinctions, Regenerative Medicine, Structural Variation Analysis, and Scanning Tunneling Microscopy. The final chapter of the book gives much-needed internal details of the tool such as on the structure of the CiteSpace MySQL database. It also gives an overview of various available Science Mapping tools.

Price

The only complaint that an intended reader might have is the price 85 USD which, at first, does seem to be a bit steep for a short book. However, considering that the book does what it claims to do, and does so, in a short space, the brevity is actually a considerable plus point. As such, I feel that the book is certainly worth its price.[1]

Conclusions

Overall, the book covers a lot of material in a very short space. The book is quite certainly invaluable for anyone interested in using CiteSpace—who better to give details of the various implemented techniques and algorithms than the author of the tool itself. This book will also be quite helpful in courses structured around the analysis and modeling of Complex Adaptive Systems such as found in the domain of scientific literature, paper authors, journals, and institutions.

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[1] Additionally, the author has kindly informed me that there is a publisher discount of 20 % being offered on orders of prepublication copies. Interested readers can email Tricia Worthington at contribcopy.hub@novapublishers.com with subject line reading "Special20".

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