Data Visualization: Principles and Practice, Second Edition

By Alexandru C. Telea

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Designing a complete visualization system involves many subtle decisions. When designing a complex, real-world visualization system, such decisions involve many types of constraints, such as performance, platform (in)dependence, available programming languages and styles, user-interface toolkits, input/output data format constraints, integration with third-party code, and more.

Focusing on those techniques and methods with the broadest applicability across fields, the second edition of **Data Visualization: Principles and Practice** provides a streamlined introduction to various visualization techniques. The book illustrates a wide variety of applications of data visualizations, illustrating the range of problems that can be tackled by such methods, and emphasizes the strong connections between visualization and related disciplines such as imaging and computer graphics. It covers a wide range of sub-topics in data visualization: data representation; visualization of scalar, vector, tensor, and volumetric data; image processing and domain modeling techniques; and information visualization.

See What's New in the Second Edition:

- Additional visualization algorithms and techniques
- New examples of combined techniques for diffusion tensor imaging (DTI) visualization, illustrative fiber track rendering, and fiber bundling techniques
- Additional techniques for point-cloud reconstruction
- Additional advanced image segmentation algorithms
- Several important software systems and libraries

Algorithmic and software design issues are illustrated throughout by (pseudo)code fragments written in the C++ programming language. Exercises covering the topics discussed in the book, as well as datasets and source code, are also provided as additional online resources.

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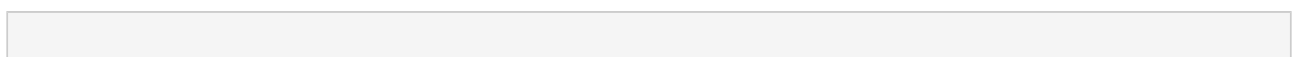
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Review

"… an ideal textbook for academic course work and should be an integral part of all academic library instructional reference collections."
?Michael J. Carson, *Midwest Book Review*, December 2014

About the Author
Alexandru C. Telea is Assistant Professor of Visualization and Computer Graphics at the Department of Computer Science of the Eindhoven University of Technology in The Netherlands. Since 2000 he has been working at the crossroads of data and information visualization, computer graphics, and software engineering. His recent research focus is software visualization, where he is working on techniques and tools that combine new parsing, interaction and rendering techniques to provide insight in industrial software projects of multimillion lines of code. He has co-authored over 80 scientific papers in national and international journals and conferences.

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