

Review

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Visualization of time-oriented data

Aigner W., Miksch S., Schumann H., Tominski C., Springer Publishing Company, Incorporated, London, UK, 2011. 302 pp. Type: Book (978-0-857290-78-6)

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There is no doubt about the importance of visualization in data analysis, whether for examining the unknown and suggesting novel approaches to explore, for confirming yet-to-be-proved hypotheses and abandoning future dead ends, or just for supporting someone's ideas with visual aids in a presentation. In most situations, the data being analyzed includes a temporal dimension whose proper treatment might boost (or bust) the resolution of a given data analysis task. Hence a systematic treatise on the visualization of time-oriented data is welcome.

Four researchers from Vienna University of Technology in Austria and the University of Rostock in Germany have compiled this extensive catalog of visualization techniques where the temporal dimension plays a major role. Their book contains one-page descriptions of 101 different ways to represent the temporal dimension of data in two or three dimensions. The catalogued techniques include literally dozens of different ways to plot time series. Some have been devised for highlighting parallelisms among different time series when analyzing multivariate data, whereas others were designed for bringing the periodic nature of time into the spotlight. Many of them have been incorporated into data visualization tools for making efficient use of the limited screen real estate and some allow for the visualization of spatiotemporal data, where appropriate. The page devoted to each technique is beautifully illustrated with a relevant diagram or screen shot. Each page also includes a concise textual description of the rationale behind the technique under analysis and, almost as a footnote, the most pertinent bibliographic reference (in rare occasions, a handful of them).

The survey of visualization techniques comprises the second half of this nicely illustrated