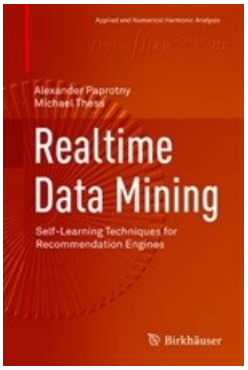
New book 'Realtime Data Mining: Self-Learning Techniques for Recommendation Engines' out now

Realtime analytics pioneer, prudsys Attorney General, has released a new book, "Realtime Data Mining: Self-Learning Techniques for Recommendation Engines", in which authors Michael Thess and Alexander Paprotny describe how realtime analytics revolutionises big data.



Databases expanding

Big data is currently a hot topic. Thanks to the internet, mobile and social media, databases are exploding. Personalisation, especially in business, is one of the key topics for large volumes of data. Instead of anonymous advertisements, consumers receive personalised offers that really interest them via a variety of channels.

The methods and approaches, however, still often stem from conventional data mining: Data are saved in extremely large quantities and then analysed from time to time. However, databases are growing too quickly, their channels are too multifaceted and customer behaviour is changing too rapidly.

The solution is known as realtime analytics. Here, data are analysed in real time, whereupon actions are immediately derived. The clear advantages include learning takes place in stages, new data are only required once to update the analysis model, there is no need for data storage. The analysis models adapt immediately to changes in the environment and the continuous interplay of analysis and action results in a completely new standard of personalisation. Thus, the transition from static analysis to realtime analytics represents a fundamental paradigm shift in the field of big data.

Realtime analytics, however, requires a new mathematical foundation. The company has been focussing on realtime analytics and personalisation for the past 10 years and the new book describe the fundamental principles of realtime analytics, based on the example of recommendation engines.

In-depth explanations

The book introduces the topic of realtime analytics. In addition to a summary of previous approaches in the field of recommendation engines, the necessity of realtime analytics and reinforcement learning as the main control theoretical framework of realtime learning is explored more closely.

The authors go into detail about new areas of modern approximation theory such as multilevel methods and tensor splitting and illustrate the topic using large volumes of synthetic and practical data. The authors also introduce the prudsys software library XELOPES which contains a comprehensive framework and state-of-the-art methods of realtime analytics. They describe other realtime analytics applications such as realtime scoring, realtime price analysis and realtime MRP and also offer a look at future research directions.

The book is aimed at specialists in the area of artificial intelligence and those interested in mathematics who want to become familiar with the practical application of state-of-the-art mathematical disciplines such as dynamic programming, multilevel methods and tensor algebra in the field of data analytics.

For more information, go to http://www.springer.com/birkhauser/mathematics/book/978-3-319-01320-6.