

# IEEE Computer Graphics AND APPLICATIONS

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## SPORTS DATA Visualization



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## Sports Data Visualization

### 24 Guest Editors' Introduction

*Rahul C. Basole and Dietmar Saupe*

The ubiquity, diversity, and relative accessibility of sports data makes it a particularly attractive domain for a range of visualization researchers. Motivated by the significant growth and popularity as well as overall potential of sports data visualization, this special issue gathers state-of-the-art research on this emerging topic.

### 28 StatCast Dashboard: Exploration of Spatiotemporal Baseball Data

*Marcos Lage, Jorge Piazzentin Ono, Daniel Cervone, Justin Chiang, Carlos Dietrich, and Claudio T. Silva*

The StatCast Dashboard visual interface helps users query, filter, and analyze the tracking data gathered by

the Major League Baseball (MLB) StatCast spatiotemporal data-tracking system. The proposed system enables the exploration of the data using a simple querying interface and a set of flexible interactive visualization tools.

### 38 Using Gap Charts to Visualize the Temporal Evolution of Ranks and Scores

*Charles Perin, Jeremy Boy, and Frédéric Vernier*

To address the limitations of traditional line chart approaches for representing entries that are ranked over time according to a performance metric, gap charts convey relative rankings and score magnitude differences in the gaps between entries.

### 50 Director's Cut: Analysis and Annotation of Soccer Matches

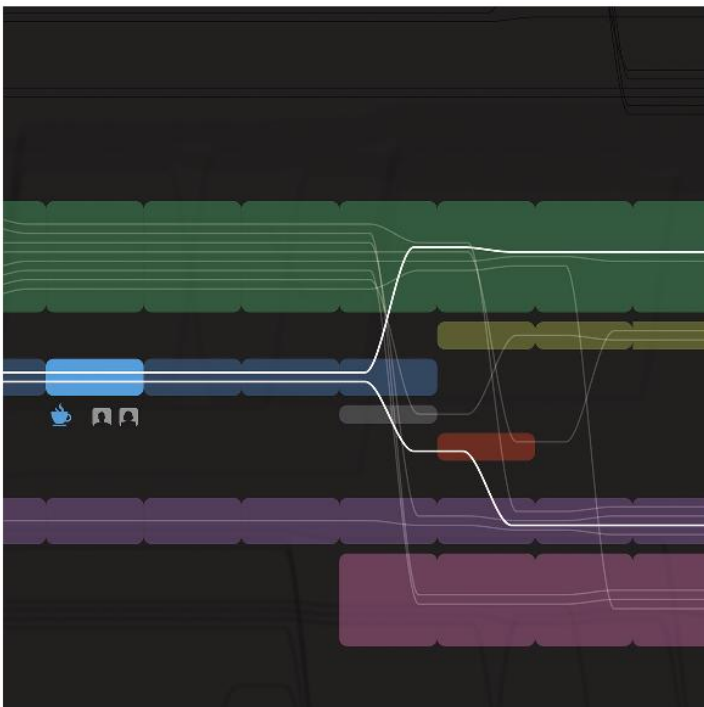
*Manuel Stein, Halldór Janetzko, Thorsten Breitzkreutz, Daniel Seebacher, Tobias Schreck, Michael Grossniklaus, Iain D. Couzin, and Daniel A. Keim*

In an effort to improve soccer player and match analysis, a visual-interactive and data-analysis support system focuses on key situations by using rule-based filtering and automatically annotating key types of soccer match elements. The proposed methods lay the foundation for innumerable further and deeper analysis tasks.

### 62 Sports Tournament Predictions Using Direct Manipulation

*Romain Vuillemot and Charles Perin*

An advanced interface for sports tournament predictions uses direct manipulation to allow users to make nonlinear predictions. Unlike previous interface designs, this proposed technique better matches the way people actually make predictions, such as first choosing the winner and then filling up the rest of the bracket.





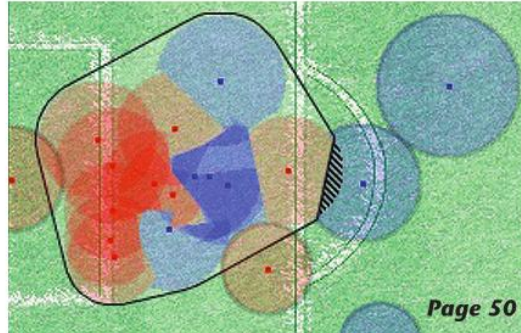
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## Feature Article

### 72 **Episogram: Visual Summarization of Egocentric Social Interactions**

*Nan Cao, Yu-Ru Lin, Fan Du, and Dashun Wang*

The interactive visualization tool Episogram summarizes the social interaction process based on a dynamic tripartite network and visualizes users' social behaviors by displaying and aggregating the network along multiple temporal dimensions, from different actors' egocentric perspectives.



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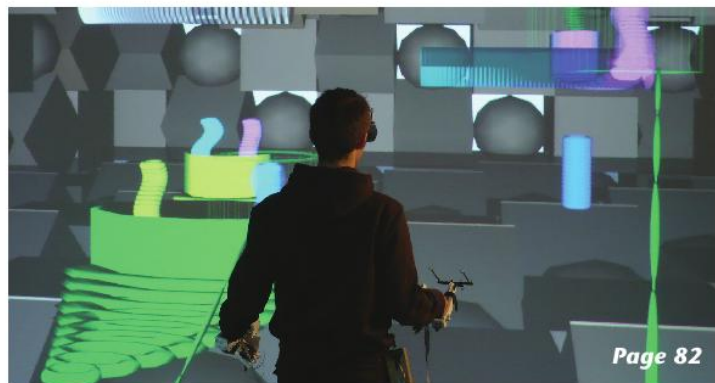
#### **A Computer Graphics Back-to-School Special**

*Mike Bailey*

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