Interactions in Team-Based Systems

Quantifying complex dynamics

Presented by
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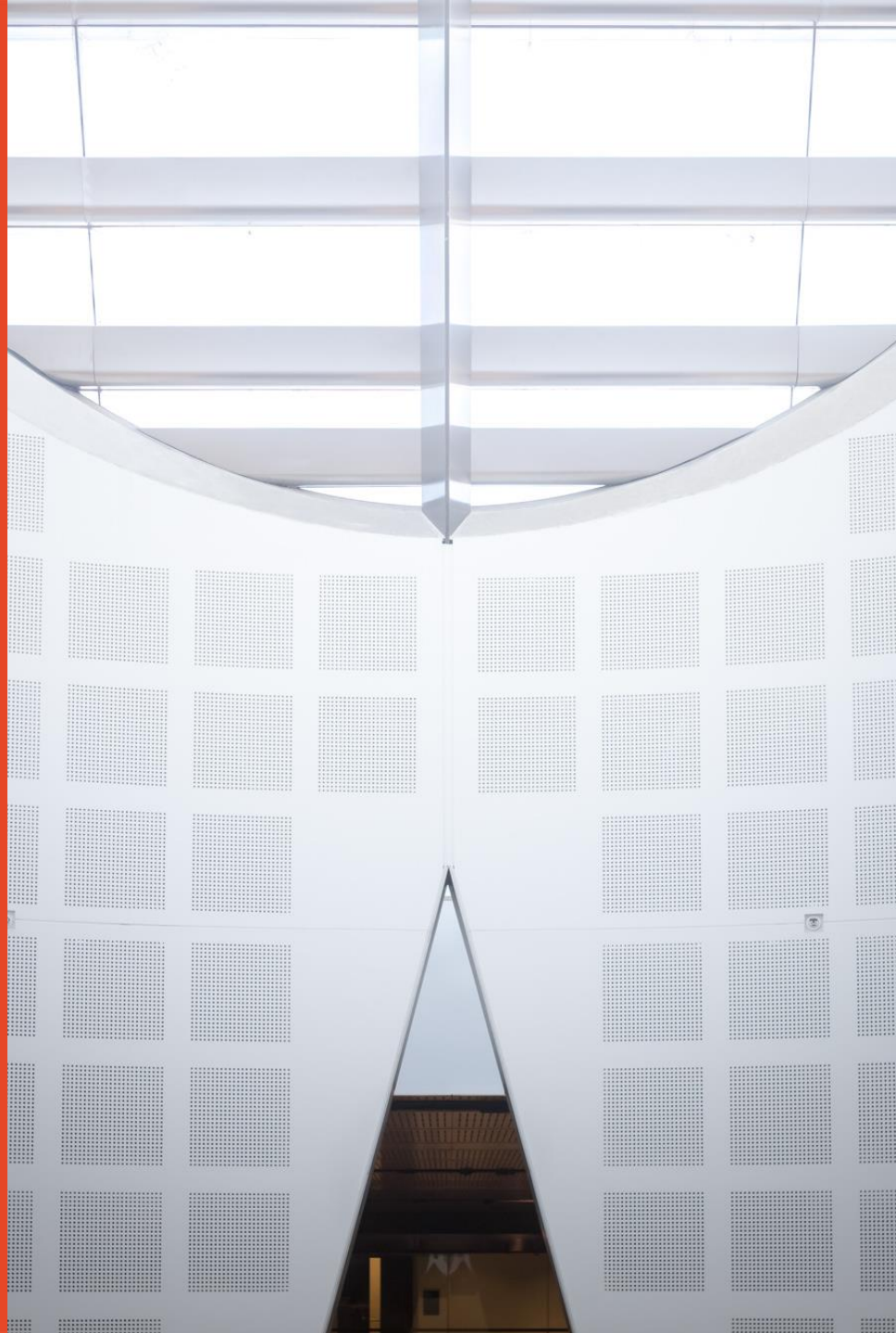
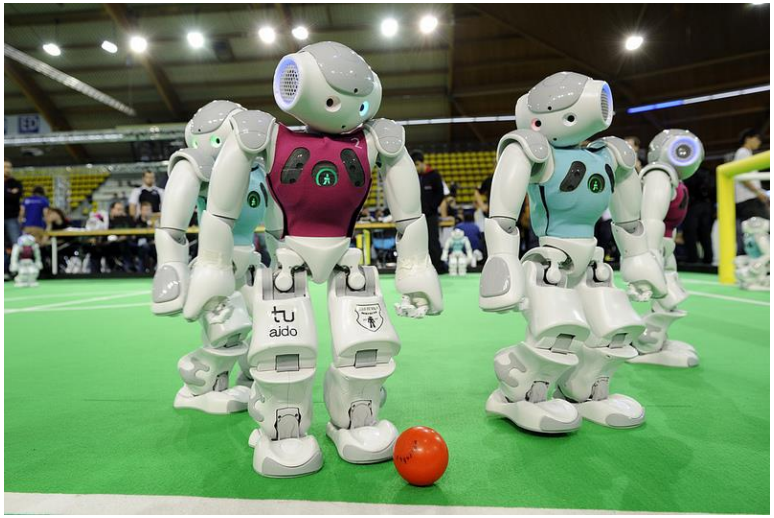


RoboCup 2D Simulation League

The RoboCup Initiative:

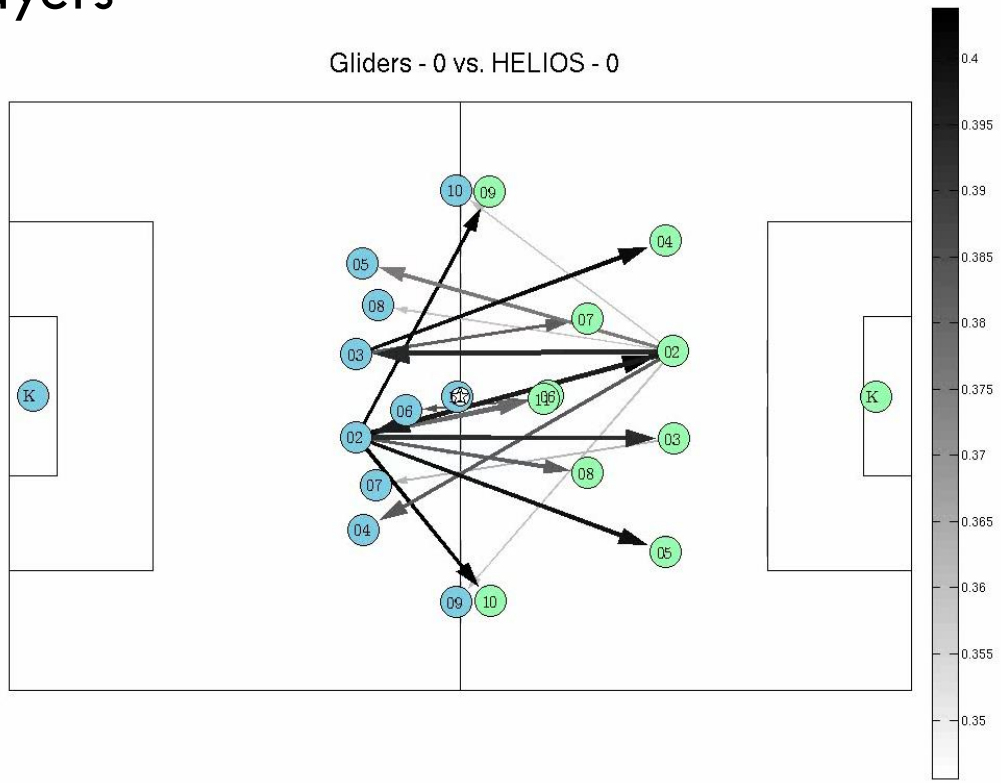
Develop a team of humanoid robots able to defeat the FIFA world cup champion



Information Flow in Football Matches

Sink Diagrams via Transfer Entropy

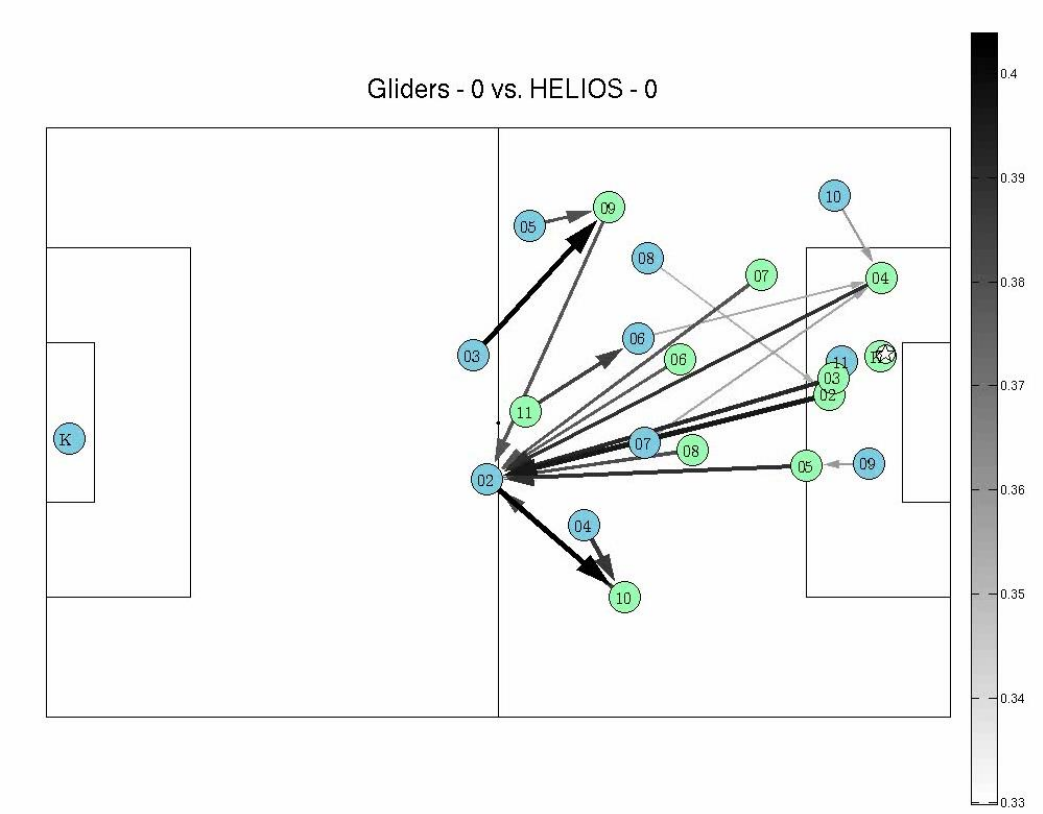
Use information theoretic measures to infer a network of most responsive players



Information Flow in Football Matches

Base Diagrams via Transfer Entropy

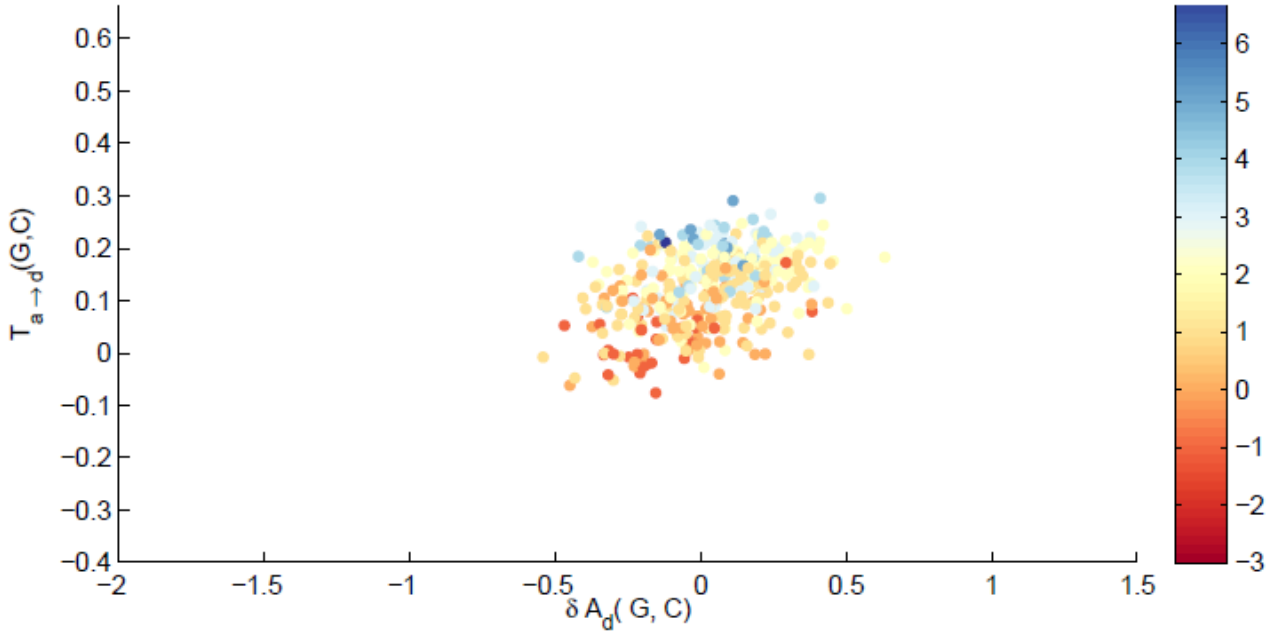
Use information theoretic measures to infer a network of driving players



Correlation Between Measures and Scoreline

Responsiveness of Attackers to Defenders

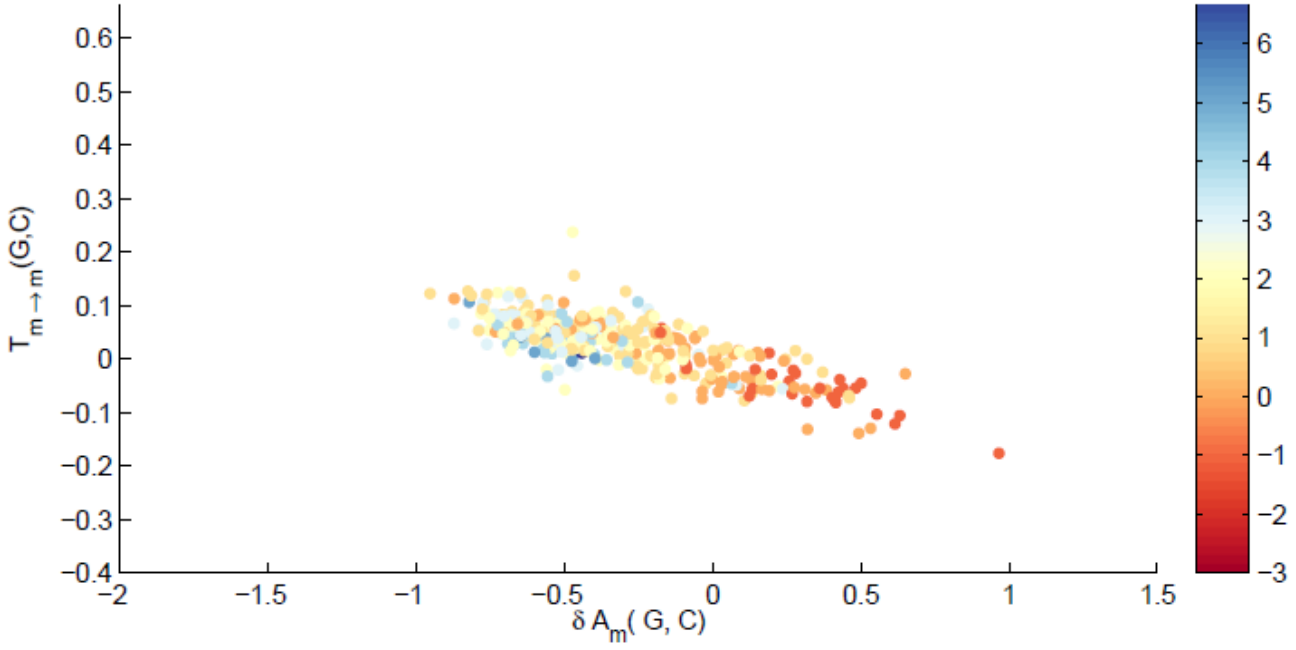
Attackers score more goals if they are both reactive and proactive



Correlation Between Measures and Scoreline

Responsiveness of Midfielders to Midfielders

Midfielders create more opportunities if they are more flexible in game play



Correlation Between Measures and Scoreline

Responsiveness of Defenders to Attackers

Defenders concede less goals if they are very proactive (rigid)