Automating and Enhancing Team Sports Performance Analysis

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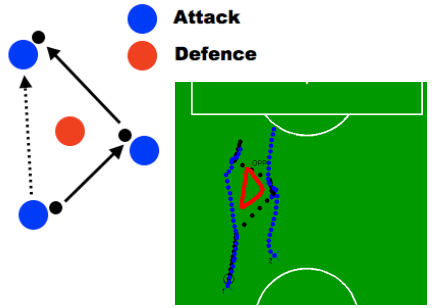
Computational models of decision-making in team sports:

- extract successful play patterns
- represent player coordination and dynamics
- learn abstract, invariant models
- compare trajectories with principled metrics



One-two attack tactic

Treat decision-making as estimation of hidden state (moment of play + player role)

Proof of principle: 2-on-1 attack tactics, modeled with switching LDS and coupled HMMs

Simulation of a standard platform RoboCup match