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Biologically-inspired Bacterial Foraging for Tracking

Abstract:

One of the key problems in computer vision and pattern recognition is tracking. Multiple objects, occlusion, and change in appearance are some of the challenges that one may face in developing an effective approach for tracking. While there are numerous algorithms and approaches to the tracking problem with their own shortcomings, a less-studied approach considers swarm intelligence. We will take a look at Bacterial Foraging Optimization, a stochastic evolutionary search algorithm modeled after the behavior of *E. coli* bacteria and show how this previously-unexplored swarm intelligence approach can be used to drive a novel part-based pedestrian appearance tracker.