

Towards a computational approach to behavior

Pietro Perona

California Institute of Technology, Pasadena, USA

Abstract

To interact successfully with people machines will need a visual system that allows them to `read' behavior: who is where, what are they doing and why, what will happen next. I will describe our work towards a computational approach to the study of behavior, including our efforts in building automated systems to measure and analyze the trajectories, actions and activities of animal models such as fruit fly *Drosophila* and mouse, as well as humans. I will speculate on future directions including predicting future events and understanding causal relationships.

Pietro Perona is the Allen E. Puckett Professor of Electrical Engineering at Caltech. He directs Computation and Neural Systems (www.cns.caltech.edu), a PhD program centered on the study of biological brains and intelligent machines. Professor Perona's research centers on vision. He has contributed to the theory of partial differential equations for image processing and boundary formation, and to modeling the early visual system's function. He is currently interested in visual categories and visual recognition.