OBJECT RECOGNITION BY A ROBOT DOG CONNECTED TO A
WIDE-AREA GRID SYSTEM (ThuAmPO1)

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Abstract :
We will demonstrate object recognition performed by a Sony Aibo robot dog. The dog is connected to a wide-area Grid system consisting of hundreds of computers located at several institutes in Europe. Object recognition is obtained by matching local histograms of color invariant features against a learned database. We effectively decompose object appearance recognition into a view based (learned) part and an appearance (invariant) part. Invariance deals with lighting conditions, color constancy, and robustness against shading effects and cast shadows. A learned set of object views guarantees recognition of different aspects of the object. As such, we show state-of-the-art in object recognition in images, as well as state-of-the-art in multimedia Grid computing, merged together into a single application.