Docket #: S12-199

High Accuracy Object Recognition in Still Images

Optimizing trade-offs in large-scale category, visual recognition by semantic hierarchy is a necessary problem to approach for the market of web-based advertising. Stanford researchers have successfully approached this issue of visual recognition under increasingly high numbers of categories with high accuracy; their Dual Accuracy Reward Trade-off Search (DARTS) algorithm has demonstrated effectiveness on datasets with over 10,000 categories.

Applications

- Image search engines
- Image analyzers
- Mobile applications
- Digital library organizations
- Personal photo management

Advantages

- DARTS is able to guarantee an arbitrarily high accuracy, unlike most of previous work in object recognition of which does not consider hierarchical relations between object categories.
- For existing methods that do consider semantic hierarchies, and are able to predict labels at different semantic levels, they lack formal theoretical guarantees of the quality of the labels while DARTS' method guarantees in theory that the optimal labels can be produced under practical conditions.

Patents

- Published Application: [20140086497](#)
- Published Application: [20160162731](#)
- Issued: [9,158,965 (USA)](#)
- Issued: [9,779,291 (USA)](#)

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