Multi-Order Feature Statistical Model for Fine-Grained Visual Categorization

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BACKGROUND

Existing methods produce high-level features by performing first-order or second-order pooling to tackle the fine-grained categorization problem.

CONTRIBUTION

We propose a multi-order feature statistical method (MOFS), which learns fine-grained features characterizing multiple orders.

METHOD

The MOFS consists of two sub-modules: (i) a first-order module modeling both mid-level and high-level features. (ii) a covariance feature statistical module capturing high-order features.

Results

We evaluate the proposed method on CUB-200-2011, Stanford Cars, and FGVC-Aircraft. Compared with state-of-the-art methods, experiment results exhibit superior performance in recognizing fine-grained objects.