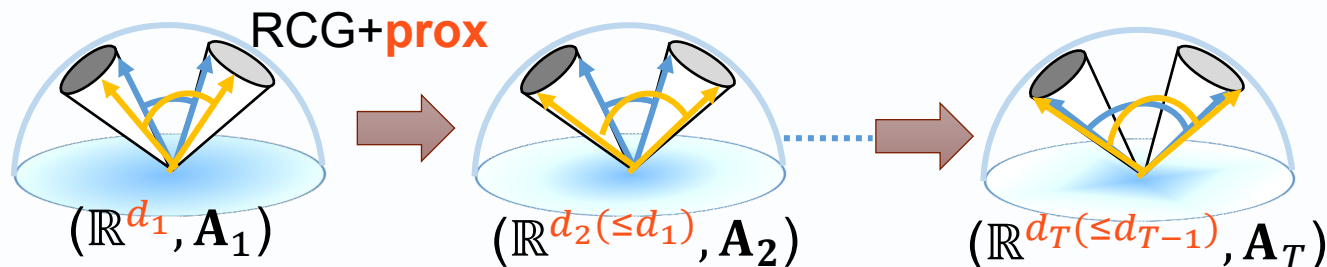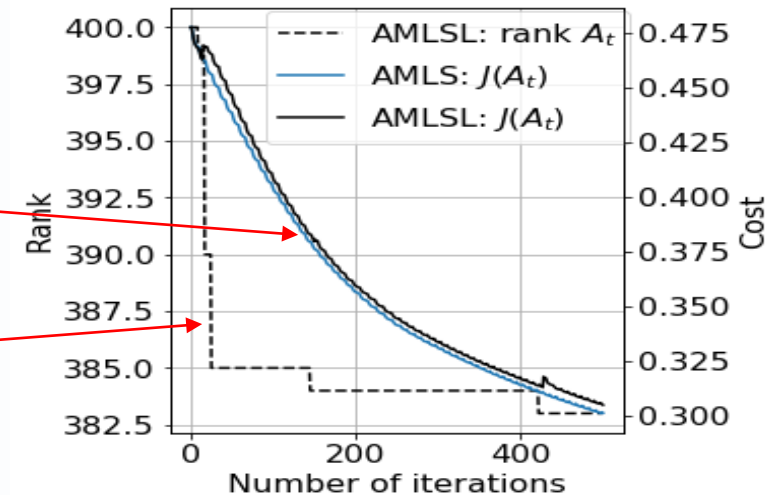CVLAB

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- **Main goal : construct a metric learning method for subspace-based methods.**
  - □ Image-set recognition: use a set of images, e.g. multi-view images and video frames, as an input

Basic idea

1. Introduce **a metric space** into the calculation of the subspace similarity.
2. **Optimize the metric space** for the classification problem by a gradient descent method.
3. **Automatically estimate the optimal dimension** of the metric space by the low-rank constraint.

RCG+**prox**

$(\mathbb{R}^{d_1}, \mathbf{A}_1)$ → $(\mathbb{R}^{d_2(\leq d_1)}, \mathbf{A}_2)$ ⋯ → $(\mathbb{R}^{d_T(\leq d_{T-1})}, \mathbf{A}_T)$

	YTC	UCF
Conventional	54.96±4.96	72.67
Proposed	**59.85±2.72**	**74.00**