Learning to Model Pixel-Embedded Affinity for Homogeneous Instance Segmentation

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VIDAR Visual Information Discovery And Recovery

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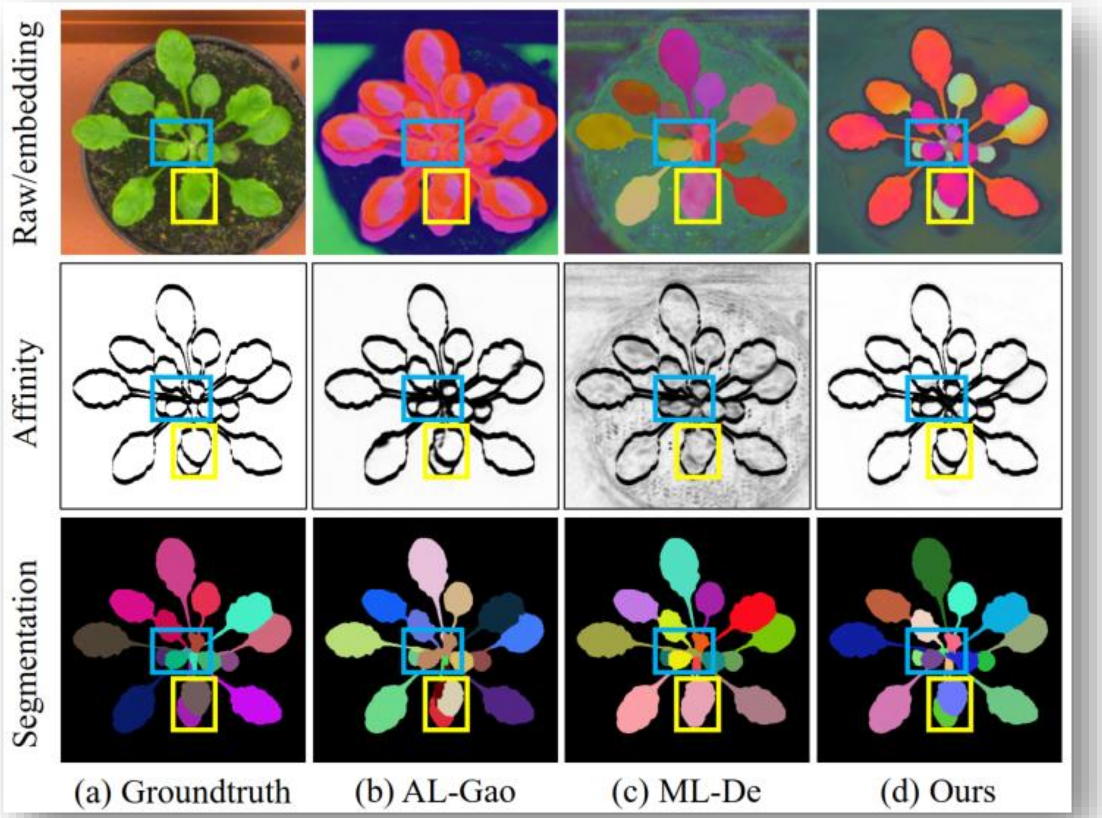
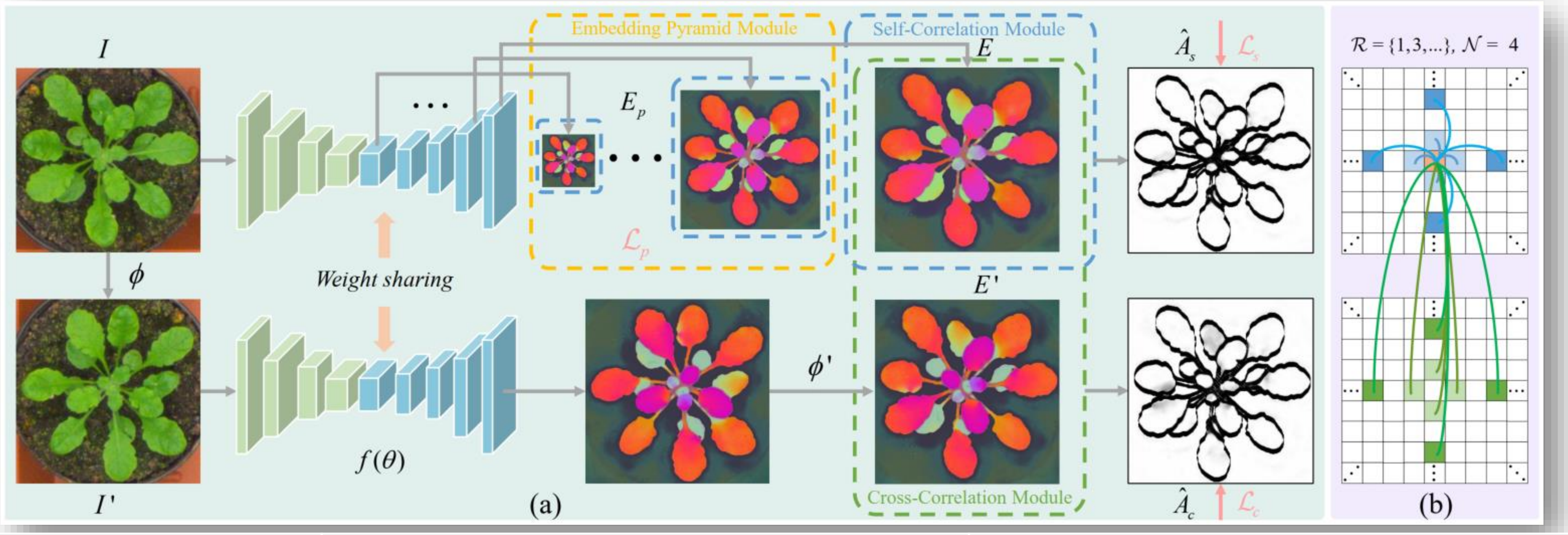
Introduction

- Challenges
  - Similar appearances
  - Dense distributions
  - Ambiguous boundaries
- Motivations
  - How to preserve the semantic information of instances
  - How to improve the distinguishability of adjacent instances
- Contributions
  - A pixel-embedded affinity modeling method for homogeneous instance segmentation
  - Superior performance on three representative datasets (CVPPP, BBBC039V1, AC3/AC4)



Pixel-Embedded Affinity Modeling



Modules	Operation	Purpose
Self-Correlation Module	Explicitly modeling the pairwise relationship between pixels	To preserve the semantic instance information
Cross-Correlation Module	Mutually estimating the pairwise relationships under different views and appearances of the input image	To improve the distinguishability of adjacent instances
Embedding Pyramid Module	Modeling affinity on different scales	To integrate the global instance information

Thanks for your listening!

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