

The background of the slide features several broad, expressive brushstrokes in various shades of green, ranging from a vibrant emerald to a deep forest green. The strokes are layered and textured, with visible brush marks and some white highlights, creating a dynamic and artistic feel.

# SimOTA

2020 郑镇辉

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# 进展汇报

## “A 文献阅读和分享”

这么厉害，能用到YOLO上吗？

### 1. Bridging the Gap Between Anchor-based and Anchor-free Detection via Adaptive Training Sample Selection

- a、证明每个位置设定多个anchor是无用的操作
- b、指出anchor-free和anchor-based方法的根本差异主要来源于正负样本的选择
- c、提出ATSS( Adaptive Training Sample Selection)方法来根据对象的统计特征自动选择正负样本；
- d、不引入其它额外的开销，在MS COCO上达到SOTA

# 1 进展汇报

## “B 目标检测领域趋势”

### YOLOX:

- 1、采用Decoupled Head
- 2、采用SimOTA

### YOLOv6:

- 1、EfficientRep、Rep-PAN
- 2、采用Decoupled Head
- 3、采用SimOTA

### YOLOv7:

- 1、模型结构重参化
- 2、动态样本分配

Backbone or Neck  
or 损失函数



检测头、正负样本匹配、  
模型结构重参化

# 1 进展汇报

## “C 正负样本分配策略——SimOTA”

网络训练



谈恋爱历程



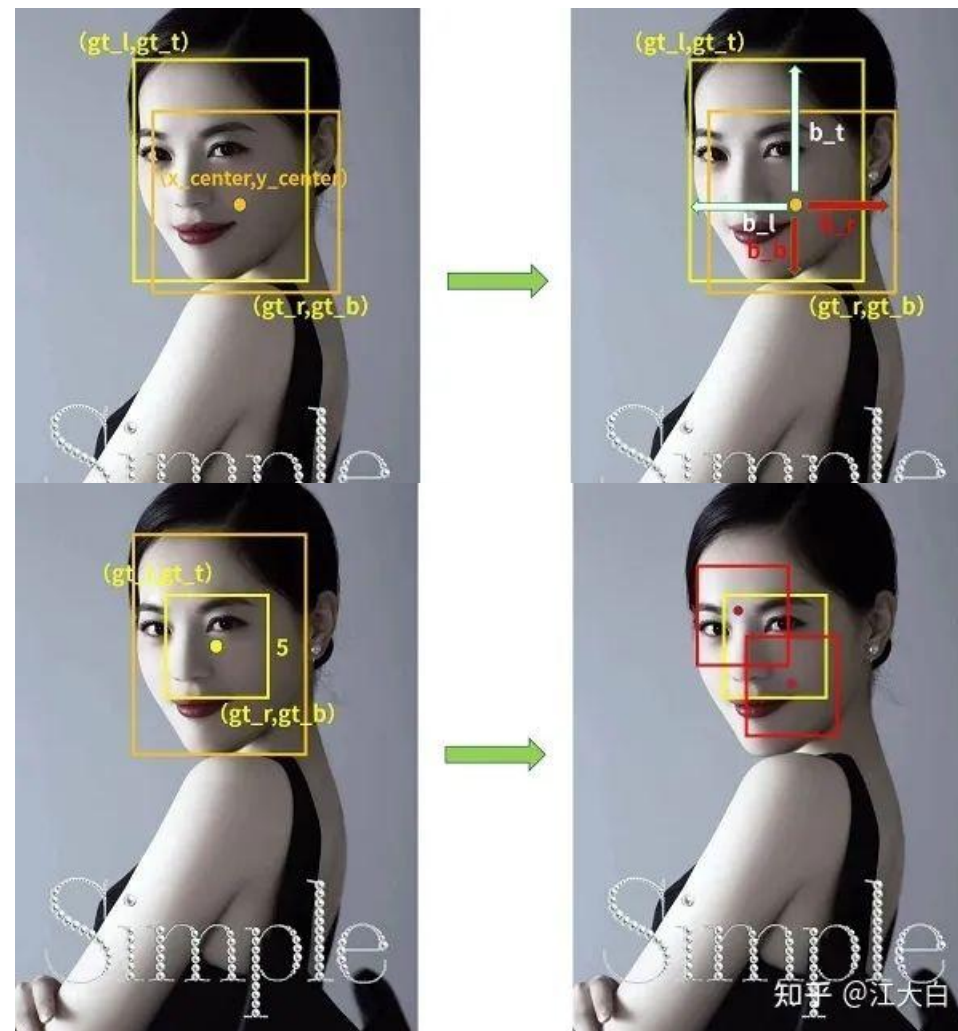
# 1 进展汇报

## “C 正负样本分配策略——SimOTA”

a、根据锚框中心点来判断 (颜值)

一、初步筛选  
(外貌协会)

b、根据目标框范围来判断 (年龄)



# 1 进展汇报

## “C 正负样本分配策略——SimOTA”

a、提出初筛样本信息，位置iou、前背景目标、类别；  
(获得这些对象的地区、性格、共同点)

b、计算Loss函数并构建cost矩阵；  
(开始给这些对象打分，地区权重比较大，为3)

$$c_{ij} = L_{ij}^{cls} + \lambda L_{ij}^{reg},$$

c、重点：根据前10iou给每个目标框动态分配k个候选框；  
(比较近的10个地区，为小花确定所分配对象个数：k个)

d、根据cost矩阵挑出前k个候选框，并去除重复候选框；  
(挑出心里评分前k高的对象，并去除别人挑过的)

## 二、精细筛选 (深度匹配)



The image features three thick, horizontal brush strokes in a vibrant green color, layered on a white background. The strokes have a textured, painterly appearance with visible bristles and some white highlights. The top stroke is the widest and most irregular, the middle stroke is narrower and more uniform, and the bottom stroke is the narrowest and most uniform. The word "THANKS !" is centered over the middle stroke in a white, bold, sans-serif font.

THANKS !