Dong Shen

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Education

Zhejiang University , Zhejiang, China 2018 – Present

Master student in Computer Science (CS), expected March 2021.
supervisor: Xiaofei He, Deng Cai

Zhejiang University, Zhejiang, China 2014 – 2018

B.S. in Computer Science (CS) 7/122
Minor in Intensive Training Program of Innovation and Entrepreneurship of ChuKochen Honors College

Experience

Unsupervised face clustering scheme for suppressing matrix numbers 2020.6 –

Alg. intern in AI-Lab,ByteDance Co. Ltd, ShangHai, China

Implement an unsupervised face clustering scheme to suppress the accounts created by the same person to get more traffic

- Responsible for the design, implementation and release the entire face clustering scheme, **Already applied to the Douyin, E-commerce**
- Select a suitable face as the representation of the user, divide the input data, and cluster
- Support millions of users and tens of millions of video-level clustering

ES-Net: Erase the Salient Parts to learn more 2019.12 – 2020.5

Research

ES-Net forces the model to learn diverse features in re-ID by erasing salient parts.

- Propose CG-RAM to locate and erase the salient parts efficiently. The visualized salient areas show human-interpretable visual explanations for the ranking results. Propose LMP to alleviate the over-ersing problem.
- With our method, simple baseline can achieve 86.4% mAP on Market1501, 52.4 % mAP on MSMT17.
- Submitted the paper to *IEEE Transactions on Image Processing* as the first author.

Progressive Transfer Learning 2019.12 – 2020.1

Research

Introduce PTL to progressively collect the discriminative knowledge into a latent state while participating in the feature extraction. Responsible for visualization, partial experimental design and model error analysis

- Submitted the paper to *IEEE Transactions on Image Processing*
- PTL has been used by the CityBrain Group (Damo Academy, Alibaba Group)

Autopilot Sparse Semantic Map System 2018.7 – 2019.3

Alg. intern in FABU Co. Ltd, Hangzhou, China

Building a high-precision sparse semantic map scheme for unmanned vehicles

- 20cm accuracy, semi-automatic labeling, ground height registration, utm spanning
- High-precision mapping and positioning scheme proposed for tunnel where there is no satellite signal

Honors and Awards

First-class academic scholarship top3% 2017.9
First-class in Mathematical Contest In Modelin/Interdisciplinary Contest In Modeling 2017.3

沈栋

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教育背景

浙江大学, 杭州 2018 – 至今

在读硕士研究生 保研, 计算机科学与技术, 预计 2021 年 3 月毕业
导师: 何晓飞，蔡登

浙江大学, 杭州 2014 – 2018

学士 计算机科学与技术，7/122
辅修 创新创业管理强化班，浙江大学竺可桢荣誉学院

实习/项目经历

用于打压矩阵号的无监督人脸聚类方案 2020.6 – 至今

实习 字节跳动上海 *AI-Lab*

实现无监督人脸聚类方案用于打压矩阵号（矩阵号为同一个人为获取更多流量创建的多个账号）

- 负责整个人脸聚类方案设计，实现和具体上线, **已上线应用于抖音, 头条电商**
- 从一个账户下多个视频中选取合适的人脸作为该用户的表示，对输入数据进行划分，聚类
- 支持百万用户，千万视频级别的聚类

ES-Net: Erase the salient part to learn more 2019.12 – 2020.5

研究

通过擦出显著性区域强迫 re-ID 模型学到更加丰富的特征表达。

- 提出了新的寻找显著性区域和擦除的方法，并针对过度擦除问题提出了一个新的池化结构 LMP
- 寻找到的显著性区域可作为可视化方法解释排序结果
- Baseline 的 mAP 从 79.2% mAP->86.4%(Market1501), 47.2%->52.4%(MSMT17)。最终 ES-Net 达到 88.6% mAP(Market1501)，57.3% mAP(MSMT17), 81.9% mAP(VeRi-776).
- 以第一作者身份提交到 *IEEE Transactions on Image Processing*

Progressive Transfer Learning 2019.12 – 2020.1

研究

基于 batch 的状态来提取显著性特征，提出了 PTL 结构

- 负责模型可视化，部分实验的设计和误差分析, 已提交到 *IEEE Transactions on Image Processing*
- PTL 方法已被阿里巴巴城市大脑组使用

基于自动驾驶的稀疏语义地图 2018.7 – 2019.3

实习 杭州飞步科技有限公司地图定位组

针对自动驾驶，提出了一种高精度稀疏语义地图方案

- 高精度地图方案: 稀疏语义地图，20cm 精度，半自动标注，地图高度注册，utm 跨区
- 针对无卫星信号的隧道场景，构建高精度地图和实施定位

获奖情况

一等学业奖学金 top3% 2017.9
美国大学生数学建模竞赛一等奖 2017.3

专利

- 生成高精度地图的方法和装置 201910090347.2
- 车辆的定位方法、装置、设备及计算机可读介质 201910147235.6