陈卓均

CHEN-ZHUOJUN　　算法工程师 (深度学习，计算机视觉)

学历：硕士　　工作经历：平安，百度 (11/2018 毕业)

联系方式: georgechenzj@outlook.com　　15627864097

论文

主要论文

RankPose: Learning Generalised Feature with Rank Supervision for Head Pose Estimation (BMVC) [https://arxiv.org/abs/2005.10984]

Deep Density-aware Count Regressor (ECAI) [https://arxiv.org/abs/1908.03314]

合作论文

CLPNet: Cleft Lip and Palate Surgery Support with Deep Learning (EMBC)

Pyramid Scale Network for Crowd Counting (In submission) [https://arxiv.org/abs/2007.05779]

演示

GAN 人脸合成效果图: https://georgezjchen.github.io/share/FaceGANDemo.pdf

GAN: Image to Image: https://georgezjchen.github.io/draw-a-car-build/

(coding) Rubik's Cube: https://georgechenzj.github.io/rubikscube/

(coding) Window 10 UI in React: https://georgechenzj.github.io/win10reactv1/

教育经历

University of Dundee	Master's degree	Computing with IB,	2017 – 2018
暨南大学	本科	信息工程,	2013 – 2017

使用过的编程语言

Python, C++, JavaScript, HTML, CSS, Java, SQL, MATLAB, C, Assembly, Erlang

技能

TensorFlow, PyTorch, Caffe, MxNet, Paddle, Linux, TensorFlow.js, Web Development, Deep Learning, English

工作经历

平安科技-智能认知团队 (校招)　　算法工程师　　05/2019 –

负责研发人脸识别算法、负责人脸识别模型精度

1. 研发了人脸合成算法，包括旋转、随机更换人脸背景和发型 [demo]。
2. 优化 Cycle GAN 用于合成闭眼图片，为人脸关键点模型提供闭眼普适性训练数据，**提升**了睁闭眼活体检测**精度**。
3. **发表**人脸姿态估计算法**论文** (BMVC)，提出 Ranking+有界角度表征 [paper]。
4. 研发了人脸识别 softmax 千万级人脸库训练框架，利用 Gradient Checkpointing 和类别分区实现千万级分类的训练。
5. 快速 (2 天) 开发了人脸标注平台，**释放**了 2 个开发+1 个产品的**人力成本**。
6. 升级各项工程：训练速度**提升 3 倍**，特征比对耗时**缩短 10 倍**，一亿特征检索速度为开源库**两倍**。
7. 人脸识别模型训练，pipeline，调参，融合，部署，**输出精度更优**的模型，**落地**移动端、服务端，公安部项目等场景。

百度 (北京)-视觉技术部 (实习)　　算法工程师　　11/2018 – 05/2019 (7 个月)

负责研发人流计数算法、负责人流计数模型精度

1. **发表**人流计数算法**论文** (ECAI)，提出热力图的多级像素化融合训练以改善数据信噪比+抽离热力图分支的加速推理 [paper]。
2. **落地上述算法**，训练人流计数模型，开发人流计数算法微服务 SDK，较上一代**错误率**从 20%**下降**到 11%，速度**提升 1.4 倍**。
3. 拉通人流计数、人体检测、驾驶员属性数据回流和标注，开发移动端人体检测的 Android SDK，开发模型转换工具。

其他实习经历:

颂煜科技 (实习)	12/2016 – 04/2017	软件工程师　(web 全栈)
佳兆业 (实习)	07/2016 – 11/2016	软件工程师　(web 全栈)

比赛

2018/09 百度之星开发者大赛 (深度学习-人流计数) 决赛获奖 – 唯一提出了原创算法，后在百度把算法完善，发表并落地

专业

对计算机科学，机器学习，深度学习，计算机视觉有系统学习。也曾经学习和实践过大数据，web 的开发，熟练 coding，能够敏捷开发各种小网页 (如：标注系统，demo, PoC)。有较多神经网络训练经验，能使用 Python, C++, Java, JavaScript 等编程语言，对代码的性能比较讲究，使用过 TensorFlow, PyTorch, Mxnet, Caffe, PaddlePaddle 等深度学习框架。熟悉物体检测、人脸检测、活体检测、人脸识别等算法。关注业务，拉通产品全流程，产出多个技术专利。兴趣上，对商科，法学略有涉猎，经常学习和使用英语。

语言

国，粤，英，熟练使用

ZHUOJUN CHEN 陈卓均 Software Engineer (Deep Learning, Computer Vision)

Education: MSc Work Experience: since Nov. 2018, in Baidu Inc., Pingan Tech.

Contact: georgechenzj@outlook.com 15627864097

Research Papers

Main papers

RankPose: Learning Generalised Feature with Rank Supervision for Head Pose Estimation (BMVC) [https://arxiv.org/abs/2005.10984]

Deep Density-aware Count Regressor (ECAI) [https://arxiv.org/abs/1908.03314]

Co-authoring papers

CLPNet: Cleft Lip and Palate Surgery Support with Deep Learning (EMBC)

Pyramid Scale Network for Crowd Counting (-) [https://arxiv.org/abs/2007.05779]

Demo

GAN: Face and Identity Synthesis: https://georgezjchen.github.io/share/FaceGANDemo.pdf

GAN: Image to Image: https://georgezjchen.github.io/draw-a-car-build/

(coding) Rubik's Cube: https://georgechenzj.github.io/rubikscube/

(coding) Window 10 UI in React: https://georgechenzj.github.io/win10reactv1/

Education

University of Dundee	Master's degree	Computing with IB	2017 – 2018
暨南大学 (Jinan University)	Bachelor's degree	Information Technology	2013 – 2017

Programming Languages

Python, C++, JavaScript, HTML, CSS, Java, SQL, MATLAB, C, Assembly, Erlang

Skills

TensorFlow, PyTorch, Caffe, MxNet, Paddle, Linux, TensorFlow.js, Web Development, Deep Learning, English

Work Experience

PingAn Technology Software Engineer 05/2019 –

Responsible for designing face recognition algorithm, particularly the final precision of face embedding models.

1. Developed methods for face image synthesis, which is a pipeline including face generation, rotation, random makeup and hairstyle [demo].
2. Transferred eye-open to eye-closed face images using an improved Cycle GAN, to boost precision of facial landmark model for blink detection.
3. Published a paper on pose estimation (BMVC), proposing ranking & pose representation on bounded space.
4. Developed system for efficient training of tens of millions of classes (face identities), using Gradient Checkpointing and class partition.
5. Developed face labelling system in two days. Freed equivalent labour of three persons.
6. Improved many tools, achieving several times of speedup in pre-processing, embedding searching and data cleaning,
7. Designed and trained face recognition models. Worked on data pipeline, hyper-parameter tuning, model ensemble and inference, yielding better models.

Baidu Inc. (internship) Software Engineer 11/2018 – 05/2019 (7 months)

Responsible for designing crowd counting algorithm.

1. Published a paper on crowd counting (ECAI), proposing to improve SNR by multi-scale density map & accelerate inference by detachable branches.
2. Deployed the above method to application, lowering error rate from 20% to 11%, with 1.4 times faster inference speed.
3. Worked on data pipelines of detection and driver behaviour classification, tools for model interchanging and deployment on both cloud and edge.

Other internship experiences at school:

Songyu Tech	12/2016 – 04/2017	Software Engineer (web full-stack)
Kaisa Group	07/2016 – 11/2016	Software Engineer (web full-stack)

Competition

2018/09 Baidu Star Developers (Crowd counting) The only innovative algorithm in the final, which is later improved to be the state-of-the-art algorithm.

Specialisation

I have systematically studied computer science, machine learning and deep learning. I have broad experience in the field of deep learning, where I also have shown some further exploration. Back in my undergraduate time, I studied web development. Some front-end projects presented here may perhaps attest my programming skill. I have practised the use of many programming languages such as Python, C++, Java, and JavaScript, and many deep learning frameworks such as Tensorflow, PyTorch, Mxnet. I will handle any new programming language or framework well. I am familiar with crowd counting, face recognition, detection, and GAN. I am expert in face recognition product.

Language

Competent at communicating in Cantonese, Mandarin and English