Haonan Chen

Personal Data

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Education

University of North Carolina, Chapel Hill (Aug 2017 - present)
Ph.D. in Department of Computer Science,
Advisor: Prof. Ron Alterovitz

Tsinghua University (Aug 2013 - Jul 2017)
Bachelor of Engineering, Dept. of Automation
Thesis: Merging Lane Group Decision Making Based on Vehicle Infrastructure Cooperation
Gpa: 88.77/100 Ranking: 17/139

Research Interests

I'm interested in robotics and natural language processing. I'm currently working on multi-modal, grounded, and embodied semantics (i.e., language with vision and speech, for robotics). Previously I have several research experiences in computer vision, including person re-identification, video captioning and action recognition.

Projects

Commonsense Reasoning Robot (Sept. 2017 - present)

- Collect new dataset for robot commonsense reasoning.
- Use language model to learn commonsense knowledge from large unlabelled corpus with application on robot manipulation tasks.

Person Re-identification in surveillance video (Sept. 2016 - Feb. 2017)

- Propose to use pre-trained ResNet on person attribute task and transfer to person re-identification.
- Our model achieves state-of-the-art result on serval public person re-id datasets.

Long- time Domain Representation of Video and its Application in Video Description Generation Task (Jun. 2016 - Sept. 2016)

- Propose to use pre-trained ResNet on person attribute task and transfer to person re-identification.
- Help collecting YouCook2 dataset http://youcook2.eecs.umich.edu/

- Our model achieves state-of-the-art result on serval public person re-id datasets.

Dense Optical Flow Estimation with Motion Vector for the Application of Real-Time Action Recognition (Feb. 2016 - Jun. 2016)

- Using motion vector and other information to extract feature from original video flow, rather than decoding the video and calculating optical flow, which will extremely speed up action recognition process.
- Using frame glimpses and reinforcement learning method to train a model to decide which should be the next observation frame automatically, which will achieve time-invariance in action recognition process.
- Using attention based model to accurately locate the action so as to treat the detail of action better.

Working Experience

Megvii Inc. (Face $^{++}$), Beijing, China (Sept. 2016 - Feb. 2017)
Research Intern

University of Michigan (Jun 2016 - Sept. 2016)
Research Intern

Publication

Qiqi Xiao, Kelei Cao, **Haonan Chen**, Fangyue Peng, Chi Zhang. *Cross Domain Knowledge Transfer for Person Re-identification.* arXiv preprint arXiv:1611.06026, 2016. [pdf]

Scholarships and Certificates

Apr 2016	MCM/ICM 2016, Meritorious Winner
2015	University Scholarship of Tsinghua for Outstanding Artistic Performance
2014, 2015	University Scholarship of Tsinghua for Outstanding Academic Performance

Programming Skills

Basic skill:	Python, C/C++, Java, Linux, LaTeX
Deep learning:	PyTorch

Interests and Activities

Open-Source, Programming
Music, Piano, Trombone, Symphony band