Joya Chen

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EDUCATION

National University of Singapore (NUS)   *Aug. 2021 - Jan. 2022*

- Research Assistant in Video Understanding   - Advisor: Asst. Prof. Angela Yao Yingjie

University of Science and Technology of China (USTC)   *Sept. 2018 - Jun. 2021*

- Master of Computer Science and Technology, GPA: 3.1/4.3   - Advisor: Prof. Enhong Chen

Wuhan University of Technology (WUT)   *Sept. 2014 - Jun. 2018*

- Bachelor of Vehicle Engineering, GPA: 3.6/4.0   - Advisor: Assoc. Prof. Jianguo Liu

RESEARCH EXPERIENCE

Computer Vision Research Intern on Object Detection   Jun. 2018 – Nov. 2019
Research Intern in Tencent   *Tencent, Shenzhen & Hefei, China*

· Deployed object detectors on the mobile phone to detect special objects in the mobile game.
· Proposed *Overlap Sampler* to address the sample selection problem in object detection. The paper was published in WACV 2020. [Paper] [Code]
· Obtained 1st place in PASCAL VOC Object Detection Competition 3 Leaderboard.

Research on General Object Detection   Jan. 2019 – Present
Researcher   *USTC, Hefei, China*

· Surveyed the foreground-background class imbalance problem in object detection. The paper was published in MIPR 2020. [Paper]
· Proposed *Residual Objectness* to address the foreground-background class imbalance problem in a learning-based manner. The paper received good reviews in Pattern Recognition. It was now in the revision submitted process. [Paper]
· Proposed *Sampling-Free* to challenge the necessity of re-sampling/re-weighting heuristics for training accurate deep object detectors under the class imbalance problem. The paper was accepted by IEEE Transactions on Image Processing. [Paper] [Code] (285 stars)

Research on Monocular 3D Hand Reconstruction   Aug. 2019 – Present
Researcher, cooperating with Chinese Academy of Sciences   *USTC & CAS, Hefei, China*

· Proposed *MANO-GCN* to capture implicit spatial cues of parameters in MANO hand model.
· The paper was accepted as ICME 2021 oral presentation. [Paper] [Code]

Research on High-level Video Understanding   Dec. 2019 – Present
Researcher   *USTC, Hefei, China*

· Proposed CrossGraphAlign for visual-textural relationship alignment in video moment retrieval.
· The paper was published in SCIENTIA SINICA Informationis (CCF A Chinese journal). [Paper]
· Proposed the social graph generation task in the video. The paper was accepted as ACM MM 2021 oral presentation.

PUBLICATIONS

- **Joya Chen**, Dong Liu, Tong Xu, Shiwei Wu, Yifei Chen, Enhong Chen. Is Heuristic Sampling Necessary in Training Deep Object Detectors? *IEEE Transactions on Image Processing*, 2021. [Paper] [Code]

- Shiwei Wu, **Joya Chen**, Tong Xu, Liyi Chen, Lingfei Wu, Yao Hu, Enhong Chen. Linking the Characters: Video-oriented Social Graph Generation via Hierarchical-cumulative GCN. In *ACM MM 2021* (Oral).

- **Joya Chen**, Dong Liu, Bin Luo, Xuezheng Peng, Tong Xu, Enhong Chen. Residual Objectness for Imbalance Reduction. *Pattern Recognition* (revision submitted). [Paper]

- Qi Wu*, **Joya Chen***, Zhou Xu, ZhiMing Yao, Xianjun Yang. Capturing Implicit Spatial Cues for Monocular 3D Hand Reconstruction. In *ICME 2021* (Oral). * Equal contribution. [Paper] [Code]

- **Joya Chen**, Hao Du, Yufei Wu, Tong Xu, Enhong Chen. Cross-Modal Video Moment Retrieval Based on Visual-Textual Relationship Alignment. *SCIENTIA SINICA Informationis*, 2020 (in Chinese). [Paper]

- **Joya Chen**, Qi Wu, Dong Liu, Tong Xu. Foreground-Background Imbalance Problem in Deep Object Detectors: A Review. In *MIPR 2020*. [Paper]

- **Joya Chen**, Bin Luo, Qi Wu, Jia Chen, Xuezheng Peng. Overlap Sampler for Region-Based Object Detection. In *WACV 2020*. [Paper] [Code]

- Xianfeng Liang, Likang Wu, **Joya Chen**, Yang Liu, Runlong Yu, Min Hou, Han Wu, Yuyang Ye, Qi Liu, Enhong Chen. Long-term Joint Scheduling for Urban Traffic. *KDD CUP 2019* (PaddlePaddle Special Award). [Paper] [Code]

HONORS AND AWARDS

- Ranked 1st in HO-3D Leaderboard in Mesh Error/AUC and F@15mm metrics   Dec. 2020

- First-class Academic Scholarship for Excellent Graduate Students (¥12,000)   Sep., 2020

- KDD CUP 2019 Regular ML Track, PaddlePaddle Special Award (Top 2, $4,000)   Aug. 2019

- Kaggle Competition on Human Protein Image Classification, Gold Medal (11/2160)   Jan. 2019

- Ranked 1st in PASCAL VOC Object Detection Competition 3 Leaderboard   Sep. 2018

- Outstanding Graduate of Wuhan University of Technology   Jun. 2018

- Ranked 1st in the National Postgraduate Entrance Examination (USTC CS, 1/300+)   Mar. 2018

SKILLS

Computer Languages	Python, C/C++, Java, Shell, Matlab, C#
Tools	Pytorch, Caffe, MySQL, LaTeX, Vim
English	IELTS 6.5 (Reading 8.0)