

Weizhe Liu

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PERSONAL INFO

Ph.D. candidate at CVLab, École Polytechnique Fédérale de Lausanne (EPFL) under the supervision of Prof. Pascal Fua.

RESEARCH INTERESTS

Crowd Analysis (Counting, Localization and Motion), Video Understanding, Action Recognition, Semantic Segmentation, Domain Adaptation, Learning with Less Supervision

EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL)

Ph.D. in Computer Science

Advisor: Prof. Pascal Fua

Research Group: Computer Vision Laboratory

Lausanne, Switzerland

June 2017 – Oct. 2021(expected)

University of California, Los Angeles (UCLA)

Visiting Scholar

Advisor: Prof. Stefano Soatto

Research Group: UCLA Vision Lab

Los Angeles, US

Sept. 2016 – Mar. 2017

École Polytechnique Fédérale de Lausanne (EPFL)

M.Sc. in Communication Systems

Title of Thesis: Active Perception Using Recurrent Neural Networks

Thesis Advisor: Prof. Stefano Soatto and Prof. Pascal Fua

Lausanne, Switzerland

Sept. 2014 – Apr. 2017

University of Electronic Science and Technology of China (UESTC)

B.Eng in Electronic and Information Engineering

Title of Thesis: Video Compressing With H.264

Thesis Advisor: Prof. Feng Fan

Chengdu, China

Sept. 2010 – July 2014

WORK EXPERIENCE

Microsoft

Research Intern

Project: Self-Supervised Video Alignment for Action Recognition

Mentor: Dr. Bugra Tekin

Zurich, Switzerland

Apr. 2021 – June 2021

Amazon

Research Intern

Project: Semi-Supervised Domain Adaptation for Semantic Segmentation

Mentor: Dr. Christian Leistner

Graz, Austria

July 2020 – Oct. 2020

NVISO

Computer Vision Engineer Intern

Project: Lightweight Caffe Framework for Mobile Devices

Mentor: Timothy Ilewellynn and Dr. Matteo Sorci

Lausanne, Switzerland

Feb. 2016 – Aug. 2016

PREPRINTS

- [1] **W. Liu**, D. Ferstl, S. Schuler, L. Zebadin, P. Fua and C. Leistner. Domain Adaptation for Semantic Segmentation via Patch-Wise Contrastive Learning. arXiv:2104.11056.
- [2] **W. Liu**, N. Durasov and P. Fua. Leveraging Self-Supervision for Cross-Domain Crowd Counting. arXiv:2103.16291.

PUBLISHED

- [1] **W. Liu**, M. Salzmann and P. Fua. Counting People by Estimating People Flows. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), 2021.
- [2] **W. Liu**, M. Salzmann and P. Fua. Estimating People Flows to Better Count Them in Crowded Scenes. *The European Conference on Computer Vision* (ECCV), 2020.

- [3] **W. Liu**, K. Lis, M. Salzmann and P. Fua. Geometric and Physical Constraints for Drone-Based Head Plane Crowd Density Estimation. *The IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2019.
- [4] **W. Liu**, M. Salzmann and P. Fua. Context-Aware Crowd Counting. *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.

TEACHING

- CS-233(a), Introduction to machine learning(BA3)
- CS-233(b), Introduction to machine learning (BA4)
- MATH-233, Probabilities and statistics
- MATH-101(e), Analysis I

PROFESSIONAL SERVICES

Reviewer of major computer vision conferences (*CVPR*, *ICCV*, *ECCV*) and journals (*T-PAMI*, *IJCV*, *TIP*).

RELEVANT SKILLS

Programming Language: Python, MATLAB, C++

Software Framework: PyTorch, OpenCV, TensorFlow, Caffe