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), Semantic Segmentation, Domain Adaptation, Action Recognition, Learning with Less Supervision

EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL)   Lausanne, Switzerland
Ph.D. in Computer Science   June 2017 − Present
Advisor: Prof. Pascal Fua
Research Group: Computer Vision Laboratory

University of California, Los Angeles (UCLA)   Los Angeles, US
Visiting Scholar   Sept. 2016 − Mar. 2017
Advisor: Prof. Stefano Soatto
Research Group: UCLA Vision Lab

École Polytechnique Fédérale de Lausanne (EPFL)   Lausanne, Switzerland
M.Sc. in Communication Systems   Sept. 2014 − Apr. 2017
Title of Thesis: Active Perception Using Recurrent Neural Networks
Thesis Advisor: Prof. Stefano Soatto and Prof. Pascal Fua

University of Electronic Science and Technology of China (UESTC)   Chengdu, China
B.Eng in Electronic and Information Engineering   Sept. 2010 − July 2014
Title of Thesis: Video Compressing With H.264
Thesis Advisor: Prof. Feng Fan

WORK EXPERIENCE

Microsoft   Zurich, Switzerland
Research Intern   Apr. 2021 − June 2021(expected)
Project: Self-Supervised Video Alignment for Action Recognition
Mentor: Dr. Bugra Tekin

Amazon   Graz, Austria
Research Intern   July 2020 − Oct. 2020
Project: Semi-Supervised Domain Adaptation for Semantic Segmentation
Mentor: Dr. Christian Leistner

NVISO   Lausanne, Switzerland
Computer Vision Engineer Intern   Feb. 2016 − Aug. 2016
Project: Lightweight Caffe Framework for Mobile Devices
Mentor: Timothy llewellynn and Dr. Matteo Sorci

PREPRINTS

[1] **W. Liu**, D. Ferstl, S. Schulter, L. Zebedin, P. Fua and C. Leistner. Domain Adaptation for Semantic Segmentation via Patch-Wise Contrastive Learning.

[2] **W. Liu**, N. Durasov and P. Fua. Leveraging Self-Supervision for Cross-Domain Crowd Counting.

[3] **W. Liu**, M. Salzmann and P. Fua. Using Depth for Pixel-Wise Detection of Adversarial Attacks in Crowd Counting.

[4] **W. Liu**, M. Salzmann and P. Fua. Counting People by Estimating People Flows.

PUBLISHED

[1] **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.

[2] **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.

[3] **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