

# Weizhe Liu

## PERSONAL INFORMATION

PhD Candidate  
Computer Vision Laboratory  
School of Computer and Communication Sciences  
École Polytechnique Fédérale de Lausanne

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<https://weizheliu.github.io>

## RESEARCH INTEREST

Scene Understanding, Crowd Counting, Semantic Segmentation, Domain Adaptation, Un/Semi/Weakly-Supervised Learning, Adversarial Learning

## EDUCATION

**2017-2021(expected):** Doctoral Assistant, Computer Vision Laboratory  
Supervisor: Prof. Pascal Fua  
School of Computer and Communication Sciences  
École Polytechnique Fédérale de Lausanne (EPFL)

**2016-2017:** Visiting Student, Vision Lab,  
Supervisor: Prof. Stefano Soatto  
University of California, Los Angeles (UCLA)

**2014-2017:** Master of Communication Systems  
School of Computer and Communication Sciences  
École Polytechnique Fédérale de Lausanne (EPFL)

**2010-2014:** Bachelor of Electronic Information Engineering  
School of Electronic Engineering  
University of Electronic Science and Technology of China (UESTC)

## WORK EXPERIENCE

**07/2020-10/2020:** Applied Scientist Intern, Amazon  
Work with: Dr. Christian Leistner, Dr. David Ferstl, Dr. Samuel Schulter and Dr. Lukas Zebedin  
Topic: Semi-Supervised Domain Adaptation for Semantic Segmentation

**02/2016-8/2016:** Computer Vision Engineer Intern, NVISO  
Work with: Timothy Ilewellynn and Dr. Matteo Sorci  
Topic: Lightweight Caffe Framework for Embedded Systems

## PREPRINTS

- **Weizhe Liu**, Mathieu Salzmann, Pascal Fua : “ *Using Depth for Pixel-Wise Detection of Adversarial Attacks in Crowd Counting*”.
- **Weizhe Liu**, Mathieu Salzmann, Pascal Fua : “ *Counting People by Estimating People Flows*”. (Extension of our ECCV 2020 paper)

## PUBLICATIONS

- **Weizhe Liu**, Mathieu Salzmann, Pascal Fua : “ *Estimating People Flows to Better Count Them in Crowded Scenes*”. *The European Conference on Computer Vision (ECCV 2020), Glasgow, UK, 2020*
- **Weizhe Liu**, Krzysztof Lis, Mathieu Salzmann, Pascal Fua : “ *Geometric and Physical Constraints for Drone-based Head Plane Crowd Density Estimation in Videos*”. *The IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2019), Macau, China, 2019*.
- **Weizhe Liu**, Mathieu Salzmann, Pascal Fua : “ *Context-Aware Crowd Counting*”. *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2019), Long Beach, US, 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, ECCV etc.*) and journals (*T-PAMI, IJCV, TIP etc.*).

#### RELEVANT SKILLS

- **Programming Language:** Python, MATLAB, C++
- **Software Framework:** PyTorch, OpenCV, TensorFlow