

Education

- 2018–2021 **PhD in Computer Vision**, ÉCOLE DES PONTS PARISTECH, IMAGINE, Paris.
Advisor: Renaud Marlet
Using deep learning and computer vision to manipulate the robot under weakly-controlled environments. Developing deep learning based methods for 3D object pose estimation in the wild.
- 2016–2018 **M.S. in Signal and Image Processing - ATSI**, UNIVERSITÉ PARIS-SACLAY, CENTRALE-SUPELEC, Paris.
The ATSI is a research-oriented master program at the crossroads between automation and signal & image processing. I specialize in statistics and image processing.
- 2012–2016 **B.S. in Electrical Engineering**, HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY & UNIVERSITÉ PARIS-SUD, Wuhan & Paris.
Receiving high-level education for three years in China and one year in France. Specialize in optical, electronics and information system. Graduation with highest honour,

Research Experience

- 2021 Jun-Sep **Research Intern**, AMAZON, IMAGING TECHNOLOGY, New York (Remote).
Object Pose Estimation and Shape Deformation
Mentor: Frederic Devernay
Developed 3D object pose estimation methods using deep learning and large-scale database of CAD models, applied on a large variety of product images. Given a pair of image and shape, the joint learning of object pose and shape deformation was also investigated.
- 2018 Apr-Sep **Research Intern**, MINES PARISTECH & L'ORÉAL, CMM, Paris.
Biomedical Image Segmentation using Deep Learning
Mentor: Etienne Decenciere
Studied the problem of labeled data insufficiency in neural network training for semantic segmentation of biomedical image. Proposed an image augmentation method to improve the network's generalization capacity. Presented as a poster at ISBI 2019.
- 2017 Jun-Aug **Research Intern**, CENTRALESUPELEC, L2S, Paris.
Network Decoding using Packets Headers
Mentor: Michel Kieffer
Studied the problem of data collection in a sensor network using network coding. Proposed a decoding approach avoiding the introduction of a coding header and the coordination step. Presented as a poster at ICASSP 2018.

Publications

- [1] Nguyen Van Nguyen, **Yang Xiao**, Michaël Ramamonjisoa, and Vincent Lepetit. A Powerful Image-only Zero-Shot Zero-CAD Approach to 6DoF Tracking. In *Submission*, November 2021.
- [2] **Yang Xiao**, Yuming Du, and Renaud Marlet. Class-Agnostic Object Viewpoint Estimation in the Wild with Pose-Aware Contrastive Learning. In *International Conference on 3D Vision (3DV) (Oral)*, October 2021.
- [3] Xi Shen, **Yang Xiao**, Othman Sbairi, Shell Hu, and Mathieu Aubry. Re-ranking for image retrieval and transductive few-shot classification. In *Neural Information Processing Systems (NeurIPS)*, September 2021.
- [4] Yuming Du, **Yang Xiao**, and Vincent Lepetit. Learning to Better Segment Objects from Unseen Classes with Unlabeled Videos. In *International Conference on Computer Vision (ICCV)*, March 2021.

- [5] **Yang Xiao** and Renaud Marlet. Few-Shot Object Detection and Viewpoint Estimation for Objects in the Wild. In *European Conference on Computer Vision (ECCV)*, August 2020.
- [6] Xuchong Qiu, **Yang Xiao**, Chaohui Wang, and Renaud Marlet. Pixel-Pair Occlusion Relationship Map (P2ORM): Formulation, Inference & Application. In *European Conference on Computer Vision (ECCV) (Spotlight)*, August 2020.
- [7] Shell Xu Hu, Pablo Moreno, **Yang Xiao**, Xi Shen, Guillaume Obozinski, Neil Lawrence, and Andreas Damianou. Empirical Bayes Transductive Meta-Learning with Synthetic Gradients. In *International Conference on Learning Representations (ICLR)*, April 2020.
- [8] **Yang Xiao**, Xuchong Qiu, Pierre-Alain Langlois, Mathieu Aubry, and Renaud Marlet. Pose from Shape: Deep Pose Estimation for Arbitrary 3D Objects. In *British Machine Vision Conference (BMVC)*, September 2019.
- [9] **Yang Xiao**, Etienne Decencière, Santiago Velasco-Forero, H el ene Burdin, Thomas Bornschl ogel, Fran oise Bernerd, Emilie Warrick, and Th erese Baldeweck. A new color augmentation method for deep learning segmentation of histological images. In *International Symposium on Biomedical Imaging (ISBI)*, April 2019.
- [10] Qiuyi Wang, **Yang Xiao**, Michel Kieffer, and Cedric Adjih. Hand: Header-Assisted Network Decoding. In *International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, April 2018.

Awards

Challenge Winner of UVO at ICCV 2021

Scholarship Reliance Scholarship 2014 (HUST)

Service

Reviewing NeurIPS, ICLR, CVIU

Teaching Image Processing

Skills

Computer Python, PyTorch, PyTorch3D
C/C++, Matlab, L^AT_EX
Blender, MeshLab

Language Mandarin Chinese (Native)
English (Proficient)
French (Fluent)