Yongzhe Yan

CONTACT INFORMATION

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RESEARCH INTERESTS

Face Analysis, Augmented Reality, Deep Learning, Explainable Machine Learning

EDUCATION

Institut Pascal, Université Clermont Auvergne, France

Ph.D. Candidate, Computer Science (expected March 2020)

- Dissertation Topic: Deep Face Analysis for Augmented Reality Applications

  Face Parsing: Semantic segmentation of the facial components, including hair, eyes, nose, and lips. Compression and acceleration of the models to enable real-time performance on mobile phones.

  Facial Landmark Detection: Detection of the fiducial facial landmarks on the boundary of facial components. Focus on improving the pixel-level precision and the robustness of the detection.

  Explainable AI: CCA(Canonical Component Analysis) towards the understanding of landmark detection models.
- Advisor: Thierry Chateau, Stefan Duffner, Xavier Naturel, Christophe Blanc, Christophe Garcia

Ecole des Mines de Saint-Etienne, France

M.A. in Engineering (Diplôme d'ingénieur), Oct 2016

- Distinction (mention bien)
- Minor in a 2nd Master Degree: Optics, Image, and Vision
- Course: Morphological image processing, Color Image Processing, Programming

Fudan University, Shanghai, China

B.A. in Biomedical Engineering, June 2014

- In exchange program to the University of New South Wales (UNSW), Australia, 2013

PUBLICATIONS

Y. Yan, S. Duffner, P. Phutane, A. Berthelier, C. Blanc, C. Garcia, T. Chateau "2D Wasserstein Loss for Robust Facial Landmark Detection," *ArXiv Preprint 1911.10572,* 2019.

Y. Yan, S. Duffner, P. Phutane, A. Berthelier, C. Blanc, C. Garcia, T. Chateau "Facial Landmark Correlation Analysis," *ArXiv Preprint 1911.10576,* 2019.

Y. Yan, S. Duffner, P. Phutane, A. Berthelier, X. Naturel, C. Blanc, C. Garcia, T. Chateau "Fine-grained facial landmark detection exploiting intermediate feature representations," *Under review,* 2019.

Y. Yan, A. Berthelier, S. Duffner, X. Naturel, C. Garcia, T. Chateau "Human Hair Segmentation In The Wild Using Deep Shape Prior," *CVPR Workshop on Computer Vision for Augmented and Virtual Reality,* 2019.

Y. Yan, B. Bout, A. Berthelier, X. Naturel and T. Chateau, "Face Parsing for Mobile AR Applications," *IEEE International Symposium on Mixed and Augmented Reality*

Adjunct (ISMAR Demo Session), 2018

Y. Yan, X. Naturel, T. Chateau, S. Duffner, C. Garcia, C. Blanc "A survey of deep facial landmark detection," *Congrès Reconnaissance des Formes, Image, Apprentissage et Perception (RFIAP)*, 2018

Talks

Rethinking Robust Facial Landmark Detection, Journée Action, Visage, Geste, Action et Comportement, GDR ISIS. (November 2019)

Explainable and Interpretable CNN, Deep Learning Seminar, Université Clermont Auvergne. (July 2019)

Face Parsing for Mobile AR Applications, ORASIS, Saint-Dié-des-Vosges. (Feburary 2019)

Working Experience

Tiama, France

Internship, March - October 2016

- Developed a deep CNN based algorithm to classify the defects detected on the glassware production line.
- The code was based on OpenCV, Theano and Lasagne.

Airbus, France

Internship, June - October 2015

- Worked on a defect inspection industrial vision project for the military transport aircraft Airbus A400M Atlas.

Honors and Awards

2014-2016 Eiffel Scholarship Program of Excellence
Annual french government scholarship for 300 top foreign students

Relevant Skills

Languages: English (fluent, TOEFL 101), French (fluent, DALF C2), Chinese (native)
Programming: Python, Git, Linux, C/C++, Matlab, LaTeX
Libraries: PyTorch, Numpy, OpenCV, scikit-learn