Yancong Lin

http://yanconglin.github.io/

Postdoc, Computer Vision Lab, Delft University of Technology, The Netherlands

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Summary

Job intention: **Researcher on Computer Vision and its Applications in Industry.**
Interested in **Data and Compute Efficient Learning by Adding Inductive Priors.**

Experience

1/2022 - Now	Postdoc, Delft University of Technology, The Netherlands Working on pixel-free deep learning and vision for industrial inspection.

Education

9/2017-4/2022	PhD, Delft University of Technology, The Netherlands
Dissertation:	Data-efficient learning of geometric structures from single-view images
References:	Dr. Jan van Gemert and Dr. Silvia L. Pintea
9/2014-6/2017	MEng in Computer Science, Tianjin Univ, China
9/2010-6/2014	BSc in Physics, Southwest Jiaotong Univ, China

Research

1/2022 - Now	**Vision for Industrial Inspection - aircraft engines** Generating synthetic data and transfer learning to the real-world. Using NeRFs for 3D reconstruction of engine blades from a single video.
3/2021 - 9/2021	**3D mirror plane detection from single-view images** Incorporated mirror geometry into learning for data- and compute- efficiency.
3/2020 - 3/2021	**Geometric priors for deep vanishing point detection** Investigated perspective geometry: map pixels to spherical point clouds. Proposed a detector robust to domain shifts (synthetic - real) / data reduction.
9/2017 - 3/2020	**Deep Hough-Transform line priors (wireframes/traffic lanes)** Proposed (Inverse) Hough Transform layers with gradient backpropagation. Validated its superiority in small-data regime and in semi-supervised learning.
9/2015 - 1/2016	**Engineering: Multi-view 3D video capture system** Implemented real-time 3D display (16 cameras, 30 FPS, 1920 × 1080).

Key Publications

1. Deep vanishing point detection: Geometric priors make dataset variations vanish. **Y. Lin**, R. Wiersma, S. Pintea, K. Hildebrandt, E. Eisemann and J. C. van Gemert. CVPR 2022.
2. Deep Hough-Transform line priors. **Y. Lin**, S. Pintea, and J. C. van Gemert. ECCV 2020.
3. Investigating transformers in the decomposition of polygonal shapes as point collections. A. Alfieri, **Y. Lin**, and J. C. van Gemert. ICCV-workshop 2021, Best Student Paper.

Skills

Teaching	Seminar Computer Vision by Learning (MSc, 2018-2021)
Reviewing	CVPR/ICCV/ECCV, IEEE Transactions on Image Processing
Programming	Python, C++, CUDA (implemented Conv2d from scratch in PyTorch)
Social	Reporter/editor for school newspaper

Awards

National Scholarship **Ministry of Education, China** 2016

Interests

Fitness, Formula 1, Premier League, NBA

May 1, 2022