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, Data-Efficient Learning**
Interested in **pre-wiring deep learning with visual inductive priors**

Experience

1/2022-9/2022	Postdoc, Delft University of Technology, The Netherlands Computer 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 - 9/2022	**Vision for Industrial Inspection - aircraft engines** Generating synthetic data and transfer learning to the real-world. 3D reconstruction of engine blades from a single video.
3/2021 - 9/2021	**3D mirror plane detection from single-view images** Data- and Compute- efficient by adding mirror geometry into learning.
3/2020 - 3/2021	**Geometric priors for deep vanishing point detection** Idea: pixel features → Hough bins → spherical point clouds. Result: w/o massive data, w/o Manhattan assumption, robust to variations.
9/2017 - 3/2020	**Deep Hough-Transform line priors (wireframes/traffic lanes)** Idea: (Inverse) Hough Transform layer with gradient backpropagation. Result: Superiority in small-data regime and in semi-supervised learning.
9/2015 - 1/2016	**Engineering: Multi-view 3D video capture system** Real-time 3D display (16 cameras, 30 FPS, 1920 × 1080).

Key Publications

1. Deep vanishing point detection: Geometric priors make dataset variations vanish, CVPR, 2022. First author, collaboration between Vision and Graphics Labs.
2. Deep Hough-Transform line priors, ECCV 2020. First author.
3. Investigating transformers in the decomposition of polygonal shapes as point collections, ICCV-workshop 2021. Best student paper, daily supervisor of this work.

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)
Social	Reporter/editor for school newspaper

Awards

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

Interests

Fitness, Formula 1, Premier League, NBA

April 18, 2022