

Yancong Lin

<http://yanconglin.github.io/>

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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. Pinte](#)
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](#), 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 in PyTorch)
Social	Reporter/editor for school newspaper

AWARDS

National Scholarship	Ministry of Education, China	2016
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INTERESTS

Fitness, Formula 1, Premier League, NBA

April 30, 2022