Yuwen Heng, PhD

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Education

University of Southampton — **Southampton, UK**
Doctor of Philosophy in Computer Science, Vision, Learning and Control Research Group — 2021–2024

University of Edinburgh — **Edinburgh, UK**
Master of Science in Data Science, Distinction degree — 2020–2021

University of Edinburgh — **Edinburgh, UK**
Bachelor of Engineering with Honours in Electronics and Electrical Engineering, Second Class, Division 1 degree — 2015–2017

North China Electric Power University — **Beijing, China**
Bachelor of Engineering in Electrical Engineering and its Automation, GPA: 3.36 — 2013–2015

Research Interest

Computer Vision and its Applications, including material segmentation for immersive-sound rendering, vision-based autonomous driving, and panorama depth estimation.

Experience

Baidu — **Shanghai, China**
Internship in Autonomous Driving Simulation — Dec 2021–Now

- Constructed an autonomous driving (AD) platform based on the open-source simulator Carla and visualisation tool CarlaViz.
- Decoupled the AD algorithm from the simulator via Robot Operating System (ROS) communication tools.
- Implemented the perception algorithms (including drivable area segmentation, lane line detection, traffic object detection, pedestrian intention prediction *et al.*) with the OpenMMLab framework.
- Deployed simulation project and managed server resources with Docker.

Publications

- Yuwen Heng, Yihong Wu, Hansung Kim, and Srinandan Dasmahapatra. Cam-segnet: A context-aware dense material segmentation network for sparsely labelled datasets. In *17th International Conference on Computer Vision Theory and Applications (VISAPP)*, volume 5, pages 190–201, 2022
- Alawadh Mona, Wu Yihong, Heng Yuwen, Niranjan Mahesan, and Kim Hansung. Room acoustic properties estimation from a single 360° photo. In *2022 30th European Signal Processing Conference (EUSIPCO)*. IEEE, 2022
- Yihong Wu, Yuwen Heng, Mahesan Niranjan, and Hansung Kim. Depth estimation from a single omnidirectional image using domain adaptation. In *European Conference on Visual Media Production (CVMP)*, pages 1–9, 2021

Patents

- Chen Kefeng, Li Shuowei, and Heng Yuwen. Head-mounted display device, 201830088225.6, 2018
- Chen Kefeng, Li Shuowei, and Heng Yuwen. Head-mounted display device, 201721775211.8, 2017
- Chen Kefeng, Li Shuowei, and Heng Yuwen. Head-mounted display device, 201711363613.1, 2017
- Li Shuowei and Heng Yuwen. Portable multi-functional intelligence comb, 201621143067.1, 2016

Awards

Overseas Students Pioneer Competition; Creative Returnees Team — 2017
2nd iCAN HongGuTan Cup VR/AR Innovation & Entrepreneurship Competition; Winning Team — 2017
Hangzhou Overseas Returnees Innovation & Entrepreneurship Competition; Outstanding Young Returnees — 2016