

Heng ZHANG

DEEP LEARNING R&D ENGINEER

22 Square Louis Armand, 35000, Rennes, France

☎ (+33) 6-4647-0816 | ✉ heng.zhang@irisa.fr | 🏠 zhangheng19931123.github.io | 📷 zhangheng19931123 | 🌐 heng-zhang-628177112

“Maximum effort!”

About Me

I am a second year PhD student in LACODAM team at INRIA Rennes laboratory. I am working under the supervision of Prof. Elisa FROMONT and Prof. Sébastien LEFEVRE. In the same time, I work as a Deep learning R&D Engineer at ATERMES in Paris. My current research interest is deep learning for multispectral object detection, small object detection and video object detection.

Work Experience

ATERMES

Paris area, France

DEEP LEARNING R&D ENGINEER

Dec. 2018 - now

- Built Deep Learning models for accurate object detection (car, pedestrian, bicycle, etc) at long distance (>3km).
- Fusing information from multiple sensors (thermal camera & visible camera) to improve the detection precision.
- Model inference acceleration for efficient deep learning applications on embedded systems.

Hubert Curien laboratory

Saint-étienne, France

APPRENTICESHIP

Sep. 2017 - Oct. 2018

- Implement different deep learning models for face/person detection in public transport (bus, tramway, subway, etc).
- Proposed efficient video object detection methods for video surveillance applications.

Education

INRIA Rennes

Rennes, France

PHD STUDENT IN DEEP LEARNING AND COMPUTER VISION

Dec. 2018 - now

- Subject: Multispectral Object detection for all-day video surveillance.
- Industry-oriented PhD program, cooperation with ATERMES company.

Télécom Saint-étienne

Saint-étienne, France

ENGINEER'S DEGREE IN COMPUTER VISION AND IMAGE PROCESSING

Sep. 2015 - Oct. 2018

- One-year Apprenticeship in Hubert Curien laboratory.

Xidian University

Xi'an, China

BACHELOR'S DEGREE IN COMPUTER SCIENCE AND ENGINEERING

Sep. 2012 - Jun. 2016

Publications

Multispectral Fusion For Object Detection With Cyclic Fuse-and-refine Blocks [pdf]

Abu Dhabi, United Arab Emirates

27TH IEEE INTERNATIONAL CONFERENCE ON IMAGE PROCESSING (ICIP2020)

Oct. 2020

- We propose a new feature fusion method for neural networks that leverages the complementary/consistency balance existing in multispectral features by adding to the network architecture, a particular module that cyclically fuses and refines each spectral feature. We obtain state-of-the-art results on KAIST Multispectral pedestrian detection benchmark.

Improving video object detection by Seq-Bbox Matching [pdf]

Prague, Czech Republic

14TH INTERNATIONAL CONFERENCE ON COMPUTER VISION THEORY AND APPLICATIONS (VISAPP2019)

Feb. 2019

- We propose a novel and highly effective box-level post-processing method to improve the accuracy of video object detection. The proposed method can be applied to online/offline detection. It achieves state-of-the-art performance on ImageNet VID dataset.