Heng ZHANG 🔊
PhD student

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HI THERE 👋

I am a third year PhD student in LACODAM team at IRISA/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 **object detection**, **multi-sensor fusion**, **active learning** and **knowledge distillation**.

WORK EXPERIENCE

Deep Learning R&D Engineer
ATERMES | Paris, France | Dec. 2018 - ??
▌ Built Deep Learning models for accurate object detection (car, pedestrian, bicycle, etc) at long distance (>1.5km).
▌ Adaptively fusing information from multiple sensors (e.g., thermal camera & visible camera) to improve the detection precision.
▌ Accelerate CNN model's inference speed for efficient DL integration under embedded constraints.

Professional contract
Hubert Curien laboratory | Saint-Etienne, France | Sep. 2017 - Oct. 2018
▌ Implement different deep learning models (Fater RCNN, SSD, YOLO, RetinaNet) for face/person detection in public transport.
▌ Proposed efficient video object detection methods for video surveillance applications (6.9% of absolute precision improvement compared to perframe detection).

EDUCATION

Ph.D. student in Deep Learning and Computer Vision
University of Rennes | Rennes, France | Dec. 2018 - ??
▌ Subject: Deep Learning on Multimodal Data for the Supervision of Sensitive Sites.
▌ Industry-oriented PhD program, cooperation with ATERMES company.

Engineer's degree (equivalent to a master's degree)
Télécom Saint-Etienne | Saint-Etienne, France | Sep. 2015 - Oct. 2018
▌ Major: Computer Science and Computer Vision
▌ One-year professional contract with Hubert Curien laboratory.

Bachelor's degree
Xidian University | Xi'an, China | Sep. 2012 - Jun. 2016
▌ Major: Electronic Engineering

PUBLICATIONS

2021
Heng Zhang, Elisa FROMONT, Sébastien LEFEVRE, Bruno AVIGNON
"Deep Active Learning from Multispectral Data Through Cross-Modality Prediction Inconsistency", in *ICIP 2021*.
[To appear] [HAL]
Heng Zhang, Elisa FROMONT, Sébastien LEFEVRE, Bruno AVIGNON
"Guided Attentive Feature Fusion for Multispectral Pedestrian Detection", in *WACV 2021*.
[PDF] [Results] [Presentation] [Demo] ⬙ Stars ‹ 8

2020
Heng Zhang, Elisa FROMONT, Sébastien LEFEVRE, Bruno AVIGNON
"Localize to Classify and Classify to Localize: Mutual Guidance in Object Detection", in *ACCV 2020*.
[PDF] [Code] [Presentation] [Demo1] [Demo2] ⬙ Stars ‹ repo not found
Heng Zhang, Elisa FROMONT, Sébastien LEFEVRE, Bruno AVIGNON
"Multispectral Fusion for object detection with Cyclic Fuse-and-Refine blocks", in *ICIP 2020*.
[PDF] [Results] [Presentation] [Demo] ⬙ Stars ‹ 3

2018
Hatem Belhassen, **Heng Zhang**, Virginie Fresse, El-Bay Bourennane
"Improving video object detection by Seq-Bbox Matching", in *VISAPP 2018*.
[PDF] [Demo]

PROJECTS

▌ awesome-video-object-detection [Code] ⬙ Stars ‹ 198
▌ EMOTATEUR [Code] [Demo] ⬙ Stars ‹ 16