Benjamin Missaoui

PhD student at NVIDIA. Research interests: Video understanding, Multi-Object Tracking, Representation learning

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RELEVANT WORK EXPERIENCE

Research Scientist intern, Video Understanding

July 2024 - now
under Dr. Laura Leal-Taixé

NVIDIA, Italy

- Researching online Multi-Object Tracking with Graph Neural Networks at Nvidia's Dynamic Vision and Learning lab.

AI Research Engineer intern, Foundation Models

May 2023 - Dec 2023
under Dr. Chi Trung Ngo

Bosch Research, Singapore

- Explored SAM for view sampling in contrastive learning. Increased downstream accuracy by 20+ points when pre-training on ADE20K or Cityscapes (accepted at NeurIPS 2023 Workshop)
- Co-Invented a method for automated labeling for object detection with 83+ F1 score (EU patent app.)

Research assistant, 3D Computer Vision

Jan 2023 - May 2024
under Prof. *Yongsheng Chen*

Georgia Tech, Atlanta, GA

- Extended NeRFs for reconstruction from images with arbitrary number of color channels (hyperspectral). Enabled prediction of continuous emittance and transmittance spectra (under review at 3DV 2025).

Research assistant, Autonomous Vehicles

Sep 2022 - Feb 2023
under Prof. *Philippe Xu*

CNRS - National Center for Scientific Research, France

Sep 2022 - Feb 2023 *(6 months, supervisor: Dr Philippe Xu)*

- Designed and implemented a solution fusing 5 cameras, LiDAR, IMU and HD maps to generate high-quality pseudo-labeled data for object detection. Now deployed in the lab's pipeline for real-time vehicle localization with centimeter-level accuracy. Accepted at IV 2023

EDUCATION

Master of Science, Computer Science
Jan 2023 - May 2024
Georgia Tech, Atlanta, GA, USA
GPA 3.8/4.0
Relevant coursework: Advanced Computer Vision, Efficient Machine Learning

Master of Engineering, Computer Science
Sep 2018 - Jan 2023
University of Technologie of Compiègne, France
GPA 3.9/4.0
Relevant coursework: ML, Deep Learning, Autonomous Robotics

PUBLICATIONS & PATENTS

[1] B. Missaoui, C. Yuan, "SAMCLR: Contrastive pre-training on complex scenes using SAM for view sampling". Accepted at NeurIPS 2023 workshop on Self-Supervised Learning

[2] B. Missaoui, M. Noizet, P. Xu, "Map-aided annotation for pole base detection". Accepted at Intelligent Vehicles Symposium (IV) 2023

[3] N. C. Trung, B. Missaoui et al., Automated Image Annotation Method And System. EU patent app. 2023

Skills: Python/C++, PyTorch, Computer Vision, LLMs, ROS, Git, Novel View Synthesis, Neural Rendering