



# Leandro Di Bella

SOFTWARE ENGINEER – (3D) COMPUTER VISION ENGINEER – MACHINE  
LEARNING ENGINEER

Brussels, Belgium

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leandrodibella.github.io

leandro-svg

leandro-di-bella

Scholar

ORCID

mappx.app

“Deployable autonomous perception with temporal consistency and robustness under distribution shift.”

## Summary

PhD candidate looking for a full-time opportunity. Specialized in computer vision and AI for autonomous driving and autonomous navigation for drones, with expertise in detection, multi-object tracking, and vision-language models (VLMs). Currently working on multi-agent motion forecasting using flow-based generative AI for autonomous perception and modular sensor fusion for autonomous drones. Seeking to contribute to Belgium’s research and innovation ecosystem by advancing AI solutions for intelligent systems.

## Experience

<b>VoxelSensors (research project)</b> COMPUTER VISION RESEARCHER	Jan. 2026 – Present Brussels, Belgium	Sensor fusion and localization for autonomous drone systems.
<b>MACQ Mobility (research project)</b> COMPUTER VISION RESEARCHER	Jan. 2023 – Jan. 2026 Brussels, Belgium	Detection, 3D multi-object tracking, scene understanding, and motion forecasting for autonomous vehicles using generative AI.
<b>Mappx</b> FOUNDER	Aug. 2025 – Present Brussels, Belgium	Built a map-centric social travel app (Flutter) with FastAPI backend and PostgreSQL.
<b>MACQ Mobility</b> COMPUTER VISION INTERN	Aug. 2022 – Oct. 2022 Brussels, Belgium	Developed and integrated instance segmentation on NVIDIA Jetson TX2 (Python/C++).
<b>Vrije Universiteit Brussel (VUB)</b> TEACHING ASSISTANT	~2022 – 2025 Brussels, Belgium	Teaching assistant for Machine Learning and Big Data Processing (2.5 years).

## Education

<b>ETRO, Vrije Universiteit Brussel (VUB)</b> PhD in Engineering Sciences (AI & Computer Vision)	Brussels, Belgium 2023 – Present
<b>Solvay Brussels School</b> Advanced Master in Industrial & Technological Management	Brussels, Belgium 2025 – 2027 (ongoing)
<b>Bruface (ULB/VUB)</b> M.Sc. Electrical Engineering (Information Technology Systems)	Brussels, Belgium 2020 – 2023
<b>Bruface (ULB/VUB)</b> B.Eng.	Brussels, Belgium 2017 – 2020

## Selected publications

### Selected journal articles

### Selected conference proceedings

**HybridTrack: A Hybrid Approach for Robust Multi-Object Tracking**  
L. Di Bella, Y. Lyu, B. Cornelis, A. Munteanu  
*IEEE RA-L / ICRA (2025)*

**DeepKalPose: An enhanced deep-learning Kalman filter for temporally consistent monocular vehicle pose estimation**  
L. Di Bella, Y. Lyu, A. Munteanu  
*Electronics Letters (2024)*

**ReferGPT: Towards Zero-Shot Referring Multi-Object Tracking**  
T. Chamiti, L. Di Bella, A. Munteanu, N. Deligiannis  
*CVPR Workshops (2025)*

**LAM3D: Leveraging Attention for Monocular 3D Object Detection**  
D.-A. Sas, L. Di Bella, Y. Lyu, F. Oniga, A. Munteanu  
*IEEE MMSP (2024)*

Skills

Programming	Python, C++, CUDA, PyTorch, TensorRT, ONNX, FastAPI, Flutter/Dart
ML / Perception	Detection, instance segmentation, monocular 3D, 2D/3D tracking (MOT), Kalman filtering, temporal consistency
Vision-language & GenAI	Grounding / referring tracking, multimodal reasoning, generative motion forecasting
Systems / Deployment	Jetson, Docker, GitHub CI/CD, Azure cloud services, Firebase, PostgreSQL
Product	Mapbox, backend ops, shipping & iteration
Academic service	Reviewer: TIP, RA-L, ICRA, ICIP, IET

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