Leandro Di Bella

Brussels, Belgium

PhD candidate (ETRO, VUB) • Autonomous Perception • Tracking • Vision-Language

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Summary

Computer vision & generative AI for autonomous perception in driving and drones. Focus on deployable systems with **temporal consistency**, **robustness under distribution shift**, and **real-time constraints**. Interests: multi-object tracking (3D MOT), vision-language grounding/reasoning, and motion forecasting.

Education

PhD in Engineering Sciences (AI & Computer Vision) — ETRO, Vrije Universiteit Brussel (VUB) 2023–Present
Research: autonomous perception, tracking, vision-language, forecasting Brussels, Belgium

Advanced Master in Industrial & Technological Management — Solvay Brussels School 2025–2027 (ongoing)

M.Sc. Electrical Engineering (Information Technology Systems) — Bruface (ULB/VUB) 2020–2023

B.Eng. — Bruface (ULB/VUB) 2017–2020

Experience

Founder — Mappx Aug 2025–Present

- Built a map-centric social travel app (Flutter) with a FastAPI backend and PostgreSQL.
- Deployed and operated cost-effective infrastructure using Azure and Firebase.

Intern — MACQ Mobility Aug 2022–Oct 2022

- Developed and integrated instance segmentation on NVIDIA Jetson TX2 (Python/C++).

Teaching Assistant — Vrije Universiteit Brussel (VUB) ~2022–2025

- Machine Learning and Big Data Processing (2.5 years).

Selected Publications

- **HybridTrack**: A Hybrid Approach for Robust Multi-Object Tracking. *IEEE RA-L / ICRA*. (2025)
- **ReferGPT**: Towards Zero-Shot Referring Multi-Object Tracking. *CVPR Workshops*. (2025)
- **FlowS**: One-Step Motion Prediction via Local Transport Conditioning. *arXiv preprint*. (2026)
- **ChronoFusion**: Spatio-Temporal Super-Resolution via Graph VAEs and Gated Fusion. *EUVIP*. (2025)

Projects

Embedded AI — Real-Time Instance Segmentation with TensorRT/ONNX 2023

- Optimized SparseInst and YOLOv7 for real-time deployment on NVIDIA edge devices using CUDA/TensorRT.

Skills

Programming: Python, C++, CUDA, PyTorch, Flutter/Dart, FastAPI
Platforms/Tools: Docker, Azure, Firebase, GitHub, VS Code, PostgreSQL
Research: Multi-object tracking, autonomous perception, vision-language models, forecasting

Languages

French (Native) • English (C1) • Dutch (B1)

Supervision

Supervised 6 Master's theses (topics: coral reef fish ID; monocular 3D detection; drone navigation in GNSS-degraded settings; pruning/quantization; pedestrian intention via VLM action models; pose estimation on embedded devices).

Last updated: April 28, 2026