# Maxime Noizet

Robotics engineer, Ph.D.


27 yo, driving license

Compiègne, France

noizetma.github.io

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## Education

2021 2024 — PhD in Robotics
Université de Technologie de Compiègne, Sorbonne Universities Alliance (UTC)

2015 2020 — Computer Engineering — UTC
*Specialization: Real-Time Systems and Embedded Computing*

2019 2020 — Master's Degree in Automatic Control and Robotics of Intelligent Systems
UTC

## Courses

Nov. 2022 — Use of GNSS for Precision Positioning
ENSG

Professional Certificate: IBM AI Engineering
Coursera

## Languages

French ●●●●●
English ●●●●◐
German ●●○○○
Japanese ●○○○○

## Skills

Writing, Analysis, Autonomy, Adaptability, Collaboration, Project Management, Communication, Dissemination, Teaching, Popularization

## References

Dr. Philippe XU
philippe.xu@ensta-paris.fr

Pr. Philippe BONNIFAIT
philippe.bonnifait@hds.utc.fr

Dr. Jean-Benoist Léger
jbleger@hds.utc.fr

## Experience

Jan. 2025 – July 2025 — CNRS Research Engineer — Heudiasyc, CNRS
Robotic Perception and Localization

July 2021 – Dec. 2024 — CNRS PhD Candidate in Robotics — Heudiasyc, CNRS, UTC
*Multi-sensor perception with vector maps for autonomous vehicle localization*
- ⋆ Multimodal automatic annotation for images and lidar data
- ⋆ Adaptation of computer vision algorithms for LiDAR point cloud classification and road feature detection in images
- ⋆ Multi-sensor fusion of GNSS, lidars, cameras, and georeferenced vector maps for robust localization in complex environments

Nov. 2020 – June 2021 — CNRS Research Engineer — Heudiasyc, CNRS
Localization integrity for autonomous vehicles, development of a 1D approximation module for data fusion

Feb. - Oct. 2020 — Research Engineer Intern — Renault Group, UTC
Long-term trajectory prediction for detected vehicles in complex urban environments

Sept. 2018 – Feb. 2019 — Assistant Engineer Intern — PiXYZ Software
Development of a visual programming feature for a CAD data optimization software

## Technical skills

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|---|---|
| General | Robotics, multi-sensor fusion, computer vision, machine learning, statistics, numerical analysis, real-time software, embedded systems |
| Languages | C++, C, Python, LaTeX, R, Matlab, Assembly, UML, SQL |
| Technologies | Git, Docker, Numpy, Scipy, Pandas, Scikit-learn, Scikit-image, OpenCV, Jupyter, Pytorch, Tensorflow, ROS, Eigen, PCL, Qt, Cython |

## Projects

2021-2024 — European Project: ERASMO (EUSPA) — Heudiasyc, CNRS
- ⋆ *Role: Responsible for integration, data acquisition, demonstrations, and validation. Participation in dissemination activities.*
- ⋆ High-integrity and high-precision localization system for autonomous navigation based on a multi-constellation GNSS PPP-RTK receiver, cameras, and lidars
- ⋆ Development of road feature detectors and a data association module using vector maps
- ⋆ Partners: GMV, Renault Group, Septentrio, Artisense, Nextium

Spring 2021 — National Project: Tornado (Ministry of Industry) — Heudiasyc, CNRS
Preparation for the demonstration: vehicle and infrastructure integration, scenario planning

Autumn 2019 — European Project: ESCAPE (GSA) — Heudiasyc, CNRS
Development of tools for localization integrity evaluation and visualization for demonstration

Autumn 2019 — Student Project: Teleoperation of Autonomous Vehicles — UTC
Mission execution with real-time obstacle detection, obstacle avoidance maneuvers proposed by the teleoperator

## Publications

Juin 2023 — Map-aided annotation for pole base detection
Intelligent Vehicles Symposium, Anchorage, USA

Sept. 2023 — Pole-based Vehicle Localization with Vector Maps: A Camera-LiDAR Comparative Study
International Conf. on Intelligent Transportation Systems, Bilbao, Espagne

Oct. 2024 — Automatic Image Annotation for Mapped Features Detection
International Conf. on Intelligent Robots and Systems, Abu Dhabi, EAU