

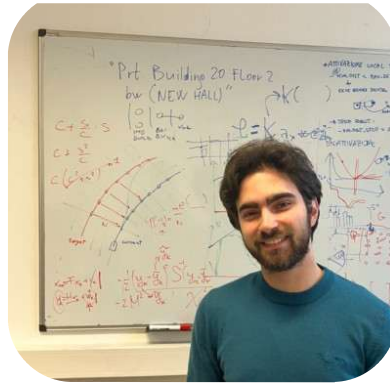
Paolo Fusco

Via Ippodromo 8, Milan, Italy 

+39 3318746694 

paolofusco98@gmail.com 

19 November 1998, Italian 



About me: I am a PhD graduate in Automation and Control Engineering with a strong passion for innovation and automation. I enjoy applying my knowledge and skills in challenging environments. I am driven by solving complex, highly technical problems that create meaningful impact.

Education

PhD in Information technology: Systems and control area

DEC. 2022 – MAY 2026

Politecnico di Milano, Milan (Italy)

Final grade: cum laude, ECTS: 25/25

Description: my PhD dealt mainly with the control and planning of high-performance autonomous vehicles, with particular emphasis on experimental applications. Throughout my PhD I have applied my knowledge in the design of control systems in the emerging field of autonomous motorsport by competing with the PoliMOVE team in multiple racing competitions and exhibitions throughout the world (United States of America, United Arab Emirates, United Kingdom). At the same time, I have also worked on the application of those advanced technologies with industrial partners to improve safety of high-performance consumer cars. The range of application of the algorithms that I developed during my PhD spans from four-wheeled vehicles to two-wheeled vehicles and from low-level real-time high-frequency control systems to low-frequency or off-line state-of-the-art optimization problems for trajectory planning.

PhD thesis: Trajectory tracking and planning for high-performance autonomous vehicles. Advisor: prof. Sergio Matteo Savaresi.

M.Sc. Automation and Control Engineering

SEP. 2020 – DEC. 2022

Politecnico di Milano, Milan (Italy)

Final grade: 110/110 cum laude, GPA: 28.9/30, ECTS: 120/120

Main Subjects: Automation and control, Mechatronics, Signal processing, Machine learning, Data-driven control, Automation in vehicles. English taught.

M.Sc. thesis: Lap-time minimization for high-performance autonomous car: Planning and Control. Advisor: prof. Sergio Matteo Savaresi.

B.Sc. Automation and Control Engineering

SEP. 2017 – SEP. 2020

Politecnico di Milano, Milan (Italy)

Final grade: 110/110, GPA: 28.53/30, ECTS: 180/180

Main Subjects: Calculus, Mechanics, Thermodynamics, Control Theory, Computer Science, Electronics, Electrical Machines, Robotics. Italian Taught.

High school Diploma

2012 – 2017

Liceo scientifico Aristosseno, Taranto (Italy)

Final grade: 100/100 cum laude

In compliance with the European Regulation 679/2016, I hereby authorize you to use and process my personal data.

Experience

M.Sc. thesis project supervisor Politecnico di Milano

DEC. 2022 – DEC. 2025

During the course of my PhD I supervised the work of sixteen M.Sc. thesis projects in the field of vehicle dynamics control and planning for both four-wheeled and two-wheeled vehicles.

Vehicle dynamics control and planning specialist PoliMOVE autonomous racing team

SEP. 2022 – DEC. 2025

For the duration of my M.Sc. thesis project and PhD project, I have been a part of the PoliMOVE Autonomous racing team. PoliMOVE represents Politecnico di Milano in two international autonomous racing competitions against professional teams and the best technical universities in the world. During the course of my experience I progressed to a leadership role, co-managing a team of more than ten PhD students and research assistants. I had the opportunity to test both my technical and leadership skills in an extremely competitive and challenging environment with tight deadlines and high stakes.

Together with PoliMOVE, I participated in multiple autonomous racing competitions:

- Indy Autonomous Challenge @ Texas Motor Speedway. Result: 1st place. Role: M.Sc. student.
- Indy Autonomous Challenge @ Las Vegas Motor Speedway. Result: 1st place. Role: PhD student.
- Indy Autonomous Challenge @ Monza. Result: 1st place. Role: Responsible for vehicle dynamics control.
- Abu Dhabi autonomous racing league @ Abu Dhabi. Result: fastest lap, 4th place. Role: Co-team lead.
- Indy Autonomous Challenge @ Indianapolis Motor Speedway. Result: 1st place. Role: Co-team lead.
- Indy Autonomous Challenge @ Laguna Seca. Result: 1st place. Role: Co-team lead.

Research project – Autonomous two-wheeler Politecnico di Milano

SEP. 2023 – DEC. 2025

Together with the mOve research team in Politecnico di Milano, I helped to develop algorithms for the trajectory tracking and planning for a two-wheeled high-performance electric motorcycle. For the purpose of this project, an experimental autonomous two-wheeler was developed and used as the experimental setup to test planning, estimation and control algorithms.

Research project – Yaw-rate control Ferrari s.p.a.

JUL. 2023 – MAR 2024

During my PhD I had the opportunity to work on a project for the control of the yaw-rate of an high-performance vehicle in partnership with Ferrari s.p.a. The project was carried out on a real car with an experimental setup provided by Ferrari built on one of their sportscars.

Research Project – Current estimation Rheinmetall s.p.a.

OCT. 2021 – FEB. 2022

Group work for the development of Software Sensing infrastructure for the estimation of the power supply current for a PMSM motor, given a single shunt measurement. Academic project developed in partnership with Rheinmetall s.p.a. and Politecnico di Milano.

IT Skills

Programming languages: frameworks and libraries

Python (excellent knowledge): Matplotlib, Numpy, Tensorflow 2, Seaborn, Scipy, Flask, Jupyter, ROSPy.

C++ (excellent knowledge): ROS C++, OpenGL, GLFW, OOP.

C (excellent knowledge): embedded programming.

Javascript (basic knowledge): Node.js

MatLab (excellent knowledge): Simulink, ROS toolbox

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| <ul style="list-style-type: none">• OS: Windows, Linux Ubuntu• IDEs: CLion, Visual Studio, Visual Code, PyCharm, Processing | <ul style="list-style-type: none">• Text processing: Microsoft Word• Good knowledge of Microsoft Office - ECDL |
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Language Skills

- English: Fluent (C1): Cambridge Certificate (CAE)
- Mandarin Chinese (A2): Basic user