

# Giulio Di Martino

 Giulio Di Martino —  g.dimartino09@gmail.com —  +39 320 039 3017

## PROFESSIONAL PROFILE

Simulation and Vehicle Dynamics focused Mechatronic Engineer (MSc) with hands-on experience building digital-twin workflows, high-fidelity vehicle models and validation pipelines for ADAS and autonomous platforms. Practical experience with HiL/SiL, model-to-simulation integration and on-vehicle system identification. Proficient in MATLAB/Simulink, Python, VI-CarRealTime and CarMaker. Strong at simulation vs test correlation, experimental planning and delivering clear technical reports for cross-functional teams. Based in Europe and available for travel.

## EXPERIENCE

**Danisi Engineering** Mar 2025 – Sep 2025

**Master’s Thesis: Digital Twins for ADAS Simulation-Based Testing Framework**

- Built an end-to-end digital-twin testing framework (CARLA, ROS2, Simulink, VI-CarRealTime) and created driving scenarios with RoadRunner/Unreal.
- Performed simulation-to-test correlation and extracted vehicle dynamics parameters used for control calibration and validation.
- Implemented model-to-simulation integration and delivered a working demonstration for traffic-light recognition simulation.
- Supported validation workflows and produced technical reports to align stakeholders on calibration results.

**H2politO, Politecnico di Torino** Dec 2023 – Apr 2025

**Autonomous Driving Engineer**

- Implemented vehicle control algorithms and performed on-vehicle system identification to improve model fidelity.
- Developed automated data pipelines to speed up calibration and analysis; executed integration and verification tests.
- Collaborated with multidisciplinary teams to deploy validated control solutions in real testing campaigns.

**Politecnico di Torino** Nov 2022 — Feb 2023

**Bachelor’s Thesis: Study of systematic errors on collaborative mobile robots**

- Designed experiments to identify and quantify systematic errors; proposed corrective actions and validated refined kinematic/dynamic models.

## KEY PROJECTS

**Safety System Design:** Defined and validated fail-operational principles and methodologies for automotive embedded systems, ensuring alignment with ISO 26262 and ISO 21434. Tools: MATLAB, Simulink.

## EDUCATION

2023 – 2025	<b>M.Sc. in Mechatronic Engineering</b> <span style="float: right;">(102/110)</span> Politecnico di Torino
2019 – 2023	<b>B.Sc. in Mechanical Engineering</b> <span style="float: right;">(87/110)</span> Politecnico di Torino
2019	<b>Scientific High School Diploma</b> <span style="float: right;">(75/100)</span>

## TECHNICAL SKILLS

<b>Core</b>	Vehicle modelling, simulation-to-test correlation, system identification, model calibration
<b>Simulation &amp; Tools</b>	MATLAB/Simulink, VI-CarRealTime, CarMaker, CARLA, RoadRunner, HiL/SiL workflows
<b>Programming</b>	Python, C++, MATLAB; data pipelines, automation and code optimisation for simulation performance
<b>Validation &amp; Testing</b>	Experimental test planning, on-vehicle validation, track/rig data correlation, technical reporting
<b>Numerical Methods</b>	Multibody dynamics, numerical solvers, optimisation and estimation techniques
<b>Other</b>	Git, Linux, collaboration in multidisciplinary teams, travel-ready

## LANGUAGES

Italian	Native proficiency
English	Excellent command (Professional working proficiency)