

# Arno Verduyn

## Curriculum Vitae

300 Celestijnenlaan bus 2420  
Leuven 3001, Belgium  
✉ arno.verduyn@kuleuven.be  
🌐 arnoverduyn.github.io

### Summary

Postdoctoral researcher in robotics with a background in mechanical and electrical engineering, specializing in trajectory analysis, motion recognition, and skill generalization for robots. Experienced in academic research, software development, and interdisciplinary collaboration.

### Experience

- 2025–Present **Postdoctoral Researcher — Robotics Research Group, Department of Mechanical Engineering, KU Leuven University, Leuven, Belgium**  
Research highlights:
  - Continuing original research on invariant descriptors for rigid-body motion.

### Education

- 2020–2025 **PhD Student, KU Leuven University, Leuven, Belgium.**  
○ Thesis title: *Invariant Trajectory Similarity Measurement: resolving singularity issues for robust invariant rigid-body motion recognition.*  
○ PhD research highlights:
  - Conducted original research on invariant descriptors for rigid-body motion as part of a European Research Council (ERC) Advanced Grant ROBOTGENSKILL project, focused on generalizing human-demonstrated robot skills. This research contributed to advancements in robotics, pattern recognition, and biomechanics.
  - Worked on a second Flemish research project focused on trajectory generation for robotic spray painting in industrial applications.
  - (Co-)mentored three master thesis students, providing guidance on experimental design, data analysis, and academic writing.
  - (Co-)authored two peer-reviewed international journal papers and three peer-reviewed international conference papers.
  - Presented research findings at the 2023 CASE, 2024 ICRA, and 2025 CASE international conferences.
  - Received a token of appreciation for serving as a session chair at the 2023 CASE Conference.
  - Awarded the Best Poster Award at the 2023 Flanders Make Scientific conference on machines, vehicles, and production technology.
  - Assisted in teaching undergraduate courses and grading assignments.  
○ Elective courses followed:
  - Course on Artificial Intelligence (2022) at KU Leuven
  - Summer school on Screw-Theory-based Methods in Robotics (2023) at TU Delft in the Netherlands
- 2018–2020 **Master of Science in Mechanical Engineering - specialization in Mechatronics and Robotics, KU Leuven University, Leuven, Belgium.**  
Graduated cum laude.
- 2014–2018 **Bachelor of Science in Electrical Engineering - with a minor in Mechanical Engineering, KU Leuven University, Leuven, Belgium.**  
Graduated cum laude.

### Languages

Dutch	Native	<i>Mother tongue</i>
English	Fluent	<i>Used in academic and professional settings</i>
French	Conversational	<i>Can understand and communicate in routine situations.</i>

### Programming Languages

MATLAB	Proficient	<i>Extensive experience in numerical computing and algorithm development</i>
--------	------------	--

Python Intermediate

C++ Beginner

*Comfortable with scripting, data processing, and basic libraries*

*Familiar with syntax and fundamental programming concepts*

## Skills

Software MATLAB, Python, LaTeX, ROS, Git, Linux, C++

Hardware Franka Emika Panda robot, HTC Vive

## Projects

Website Personal website built using HTML, JavaScript, and CSS; deployed via GitHub Pages.

## References

Available upon request.