Arno Verduyn

Curriculum Vitae

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

Summary

PhD 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

2020–Present **PhD Researcher — Robotics Research Group, Department of Mechanical Engineering**, *KU Leuven University*, Leuven, Belgium

- Conducting 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 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 five peer-reviewed papers in international journals and conferences.
- Presented research findings at the 2023 ICRA and 2024 CASE international conferences.
- Collaborated with interdisciplinary teams and external research partners.
- Received a token of appreciation for serving as a session chair at the 2024 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.

Education

2020–Present **PhD Student**, *KU Leuven University*, Leuven, Belgium.

- PhD thesis: Invariant Trajectory Similarity Measurement: resolving singularity issues for robust invariant rigid-body motion recognition.
- Elective courses:
  - 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	*Mother tongue*
English	Fluent	*Used in academic and professional settings*
French	Conversational	*Can understand and communicate in routine situations.*

Programming Languages

MATLAB	Proficient	*Extensive experience in numerical computing and algorithm development*
Python	Intermediate	*Comfortable with scripting, data processing, and basic libraries*
C++	Beginner	*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.