

Mohamed Kastouri - Curriculum Vitae

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Born: 18th July 1995, Tunisia
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Education

2018-2022	M.Sc. in Electrical Engineering <i>RWTH Aachen University</i> Master Thesis: Self-Supervised Representation Learning for Perception in Autonomous Driving. Relevant courses: Robotics and Man-Machine-Interaction, Estimation, Information Fusion and Machine Learning, Artificial Intelligence, Modern Control Systems, Embedded Systems, Computer Arithmetic Grade: 1.3, <i>with distinction</i> (German grading system: 1.0 best to 4.0 pass, equivalent to 5.75 in Switzerland)	📍 Aachen, Germany
2015-2018	B.Sc. in Electrical Engineering <i>RWTH Aachen University</i> Bachelor Thesis: Fractional-Order PID-Controller for a Knee Exoskeleton. Grade: 2.4, <i>good</i> (equivalent to 5 in Switzerland)	📍 Aachen, Germany
2014 - 2015	Language Course <i>University of Heidelberg</i> Official German certificate: DSH (Grade: DSH-3)	📍 Heidelberg, Germany

Work experience

Aug 2022 - Present	Research Assistant <i>RWTH Aachen</i> <ul style="list-style-type: none">- Implementing 3D computer vision algorithms for scene understanding- Developing drone path planning and mesh reconstruction algorithms- Teaching and writing grant proposals	📍 Aachen, Germany
Mar 2021 - Jun 2022	Student Research Assistant <i>Institute for Automotive Engineering, RWTH</i> <ul style="list-style-type: none">- Implementing geometry-based computer vision algorithms for autonomous driving- Contributing to the course: "Autonomous and Connected Driving Challenges"	📍 Aachen, Germany
Oct 2021 - Jan 2022	Teaching assistant <i>Institute for Communication Technologies, RWTH Aachen</i> <ul style="list-style-type: none">- Co-teaching a lab in robotics called "MATLAB meets LEGO Mindstorms"	📍 Aachen, Germany
Nov 2019 - Apr 2020	Intern <i>Mercedes-Benz AG</i> <ul style="list-style-type: none">- Developing of a residual bus simulation of the vehicle's networking- Testing a new data path from the vehicle to the back-end	📍 Stuttgart, Germany
Jul 2019 - Oct 2019	Student Research Assistant <i>Institute for Communication Technologies, RWTH Aachen</i> <ul style="list-style-type: none">- Design of application specific signal processing hardware in VHDL	📍 Aachen, Germany

Dec 2018 - Jan 2019	Teaching Assistant <i>Helmholtz-Institute, RWTH Aachen</i> - Co-teaching a lab in robotics called "MATLAB meets LEGO Mindstorms"	📍 Aachen, Germany
Apr 2018 - Jul 2018	Teaching Assistant <i>Institute of Electromagnetic Theory, RWTH Aachen</i> - Supervising the exercise sessions for the bachelor course "Introduction to Electromagnetic Fields"	📍 Aachen, Germany

Certification

2022-2022	Self-Driving Car Engineer Nanodegree <i>Main courses: Computer Vision, Deep Learning, Sensor Fusion, Localization, Planning, and Control.</i>	Udacity
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Projects

See with you Ears - Combining object detection and tracking algorithm with binaural sound synthesis to better the interaction with the environment for a visually impaired person	Link
Animatronic Eye - Designing a servomotor-driven 3D-printed intelligent animatronic eye which	Link
Path Planning - Implementing a path planning algorithm for an autonomous car in a highway simulation	Link

Publications

Conference paper 2023	Video Representation Learning for Decoupled Deep Reinforcement Learning Applied to Autonomous Driving Shawan Mohammed, Mohamed Kastouri, Artur Niederfahrenhorst, Gerd Ascheid International Symposium on System Integration
Conference Poster 2022	Cloud-based Inverse Perspective Mapping Bastian Lampe, Mohamed Kastouri, Lennart Reiher, Raphael van Kempen, Till Beemelmans, Timo Woopen and Lutz Eckstein

Skills

Programming	Python: Advanced C++: Advanced MATLAB: Intermediate SQL: Intermediate Taichi Lang: Beginner
Frameworks, Technologies	PyTorch, ROS/ROS2, OpenCV, Git, Git CI/CD, Linux, Embedded Systems Unreal Engine, 3D Printing
Languages	English (C1), German (C1), French (B2), Spanish (A2), Arabic (mother tongue)

Honors and Awards

2022	Master degree in electrical engineering with distinction RWTH Aachen
2017	Dean's List (top 5%) RWTH Aachen
2015 - 2021	DAAD Scholarship