

Jon Arrizabalaga

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EDUCATION

- **Carnegie Mellon University** Pittsburgh, USA
Visiting PhD - Robotics Institute (RI); Advisor: Prof. Zachary Manchester January 2024 - Present
- **Technical University of Munich** Munich, Germany
PhD - Robotics & Control; Advisor: Prof. Markus Ryll November 2020 - Present
- **KTH Royal Institute of Technology** Stockholm, Sweden
Master of Science - Mechatronics September 2018 - July 2020
- **Shanghai Jiao Tong University - University of Michigan** Shanghai, China
Bachelor of Science - Mechanical Engineering September 2017 - January 2018
- **University of Navarre** San Sebastian, Spain
Bachelor of Science - Mechanical Engineering September 2014 - July 2018

EXPERIENCE

- **Bosch Research** Renningen, Germany
MSc Thesis - Robotics Researcher; Advisors: Dr. Niels van Duijkeren, Dr. Ralph Lange January 2020 - July 2020
- **Porsche AG** Weissach, Germany
Intern - Test Field; Advisor: Eric Preising May 2019 - September 2019

PUBLICATIONS

- *Geometric Slesh-Free Tracking for Robotic Manipulators*; Jon Arrizabalaga, Lukas Pries, Riddhiman Laha, Runkang Li, Sami Haddadin, Markus Ryll; IEEE International Conference on Robotics and Automation (ICRA), Yokohama, Japan, 2024 — Paper, Code, Video
- *Learning for CasADi: Data-Driven Models in Numerical Optimization*; T. Salzmann, J. Arrizabalaga, J. Andersson, M. Pavone, M. Ryll; Preprint, 2023 — Paper, Code, Talk
- *Pose-Following with Dual Quaternions*; J. Arrizabalaga, M. Ryll; IEEE Conference on Decision and Control (CDC), Singapore, 2023 — Paper, Code, Talk
- *SCTOMP: Spatially Constrained Time-Optimal Motion Planning*; J. Arrizabalaga, M. Ryll; IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Detroit, USA, 2023 — Paper, Video
- *Spatial Motion Planning with Pythagorean Hodograph curves*; J. Arrizabalaga, M. Ryll; IEEE Conference on Decision and Control (CDC), Cancun, Mexico, 2022 — Paper, Video, Talk
- *Towards Time-Optimal Tunnel-Following for Quadrotors*; J. Arrizabalaga, M. Ryll; IEEE International Conference on Robotics and Automation (ICRA), Philadelphia, USA, 2022 — Paper, Video
- *Neural-MPC: Deep learning model predictive control for quadrotors and agile robotic platforms*; T. Salzmann, E. Kaufmann, J. Arrizabalaga, M. Pavone, D. Scaramuzza, M. Ryll; Robotics and Automation Letters (RA-L), 2022 — Paper, Code
- *A caster-wheel-aware MPC-based motion planner for mobile robotics*; J. Arrizabalaga, N. van Duijkeren, M. Ryll, R. Lange; IEEE International Conference on Advanced Robotics (ICAR), Ljubljana, Slovenia, 2021 — Paper, Video, Thesis

TEACHING

- **Engineering Mechanics I** Technical University of Munich
Lecturer; Enrolled students: 200 (21-22), 350 (22-23) and 450 (23-24) Winter Semesters 21-22, 22-23 and 23-24
- **Introduction to ROS (Robot Operating System)** Technical University of Munich
Lecturer; Enrolled students: 50 Summer Semesters 21-22 and 22-23

HONORS & AWARDS

- **Best PhD Lecturer Award** Technical University of Munich
Recognizes the PhD lecturer who has received the highest evaluations from BSc and MSc students within the Aerospace and Geodesy faculty Winter Semester 21-22
- **Outstanding End-of-Degree Award (finalist)** University of Navarre
Honors BSc. students who have excelled in both their academic and extracurricular endeavors Years 14-18

INVITED TALKS

- **Institute of Flight Systems** German Aerospace Center, DLR
Prof. Stefan Levedag *January 23*
- **Robotics and Perception Group** University of Zurich
Prof. Davide Scaramuzza *April 22*

STUDENTS MENTORED

- **Harun Tongay Tamtürk** *now at*
Airbus Defence and Space
Semester Thesis: Flight Corridor Planning for Navigation of UAVs within Dynamics Environments
MSc. Thesis: Vision-Based Localization of High-Altitude UAVs
- **Bruno Sorban** Rocket Factory Augsburg
Semester Thesis: Optimal Trajectory Control of a Hopper Rocket, Code

GRANTS RECEIVED

- **International Connecting Talent** Fomento San Sebastian, 2020
Support to pursue a 6-month project in scientific or technical research *1500 €/month*

REVIEW ACTIVITIES

- IEEE Robotics and Automation Letters (RA-L)
- IEEE International Conference on Robotics and Automation (ICRA)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- IEEE Conference on Decision and Control (CDC)

REFERENCES

- **Prof. Markus Ryll** Technical University of Munich
markus.ryll@tum.de *Munich Institute of Robotics and Machine Intelligence (MIRMI)*
- **Dr. Ralph Lange** Bosch Research
ralph.lange@de.bosch.com *Head of Robotics Research Portfolio*
- **Dr. Niels van Duijkeren** Bosch Research
Niels.vanDuijkeren@de.bosch.com *Research Scientist / Project Lead*