# Jon Arrizabalaga

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## EDUCATION

**Technical University of Munich** — Munich, Germany
*PhD - Robotics; **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*

**Irizar** — Ormaiztegi, Spain
*Intern - Research Engineer* — *May 2017 - September 2017*

## PUBLICATIONS

- *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*

**Dynamics Motion and Control** — KTH Royal Institute of Technology
*Teaching Assistant* — *Winter Semester 19-20*

**Robust Mechatronics** — KTH Royal Institute of Technology
*Teaching Assistant* — *Winter Semester 19-20*

**Computer Science** — University of Navarre
*Teaching Assistant* — *Winter Semester 14-15*

## AWARDS

- **Best PhD Lecturer Award** — Technical University of Munich
  *Recognizes the PhD lecturer who has received the highest evaluations from 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*

## EXTRACURRICULAR PROJECTS

- **The Juggling Robot Project** — KTH Royal Institute of Technology
  *Software and Control Engineer; Video (year 21-22)* — *Winter Semester 19-20*

- **Formula Student** — University of Navarre
  *Dynamics Engineer;* **Team:** *Tecnun eRacing* — *Seasons 16-17 and 17-18*

## 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*

## 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)

## SKILLS

- **Programming**: Python, C/C++, ROS, Linux

- **Optimization**: CasADi, Acados, Gurobi, CVXPY

- **Artificial Intelligence**: Pytorch

- **Symbolic Mathematics**: Mathematica, Sympy

- **Languages**: Basque, Spanish, English, French, German