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*

General Electric — Shanghai, China
Working student - Aviation — *September 2017 - January 2018*

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

PUBLICATIONS

- *Pose-Following with Dual Quaternions*; J. Arrizabalaga, M. Ryll; IEEE Conference on Decision and Control (CDC), Singapore, 2023 — Preprint

- *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) and 350 (22-23)* — *Winter Semesters 21-22 and 22-23*

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