Jon Arrizabalaga

Email: jon.arrizabalaga@tum.de, Portfolio: jonarriza96.github.io

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

- **Robert Bosch GmbH - Corporate 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

- *Spatially Constrained Time-Optimal Motion Planning*; J. Arrizabalaga, M. Ryll; Under review — Preprint
- *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
- *Real-time 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 Semester 21-22*
- **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)

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