

# Antonio ARBUES

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Education	<b>ETH Zurich</b> (Switzerland) MSc Robotics, Systems and Control <ul style="list-style-type: none"><li>• Focus: Reinforcement Learning, Deep Learning, MPC, Computer Vision</li><li>• Thesis: Reinforcement Learning for terrain excavation planning</li><li>• GPA: 5.75/6.0 (distinction)</li></ul>	2020-2023
	<b>Politecnico di Milano</b> (Italy) BSc in Mechanical Engineering <ul style="list-style-type: none"><li>• Final grade: 107/110 (top 9%)</li></ul>	2017-2020
	<b>Technical University of Denmark</b> - Exchange Student (Denmark)	2019-2020
Relevant Experience	<b>MSc Thesis Student</b> Robotic Systems Lab (ETH Zurich) <a href="#">Report</a> , <a href="#">Video</a> <ul style="list-style-type: none"><li>• Built a GPU-parallelized RL environment for high-level excavation planning (JAX)</li><li>• Built and trained agents policies beating every existing work in the field (PPO)</li></ul>	2023
	<b>Deep Learning and Motion Planning Intern</b> Motional (Singapore, SG) Motional builds autonomous taxis in the US and Singapore. <ul style="list-style-type: none"><li>• Built and trained a GAN controlling multiple agents in a traffic simulation, to improve the simulation capabilities of the planning team (PyTorch, AWS, SLURM)</li></ul>	2022-2023
	<b>Autopilot Team Lead &amp; Control Engineer</b> AMZ Racing (Zurich, CH) At AMZ we build a self-driving racecar from scratch every year to compete in Formula Student <a href="#">Competition Video</a> <ul style="list-style-type: none"><li>• Led the autonomous systems team that won the Engineering Design 1<sup>st</sup> place at FSG 2022</li><li>• Implemented MPC Model Learning using a DL-based approach (PyTorch, Forces PRO)</li><li>• Debugged the real-world autonomous system for hundreds of hours (ROS &amp; C++)</li></ul>	2020 - 2022
	<b>Co-Founder</b> Seamless (Zurich, CH) <a href="#">seaml.es</a> is an AI tool that writes the literature review for you <ul style="list-style-type: none"><li>• Generating 3k\$ MRR passive income (so I can focus on robotics!)</li><li>• Built the full-stack app (Python, Vue.js, Bootstrap, Tailwind)</li></ul>	started 2023
	<b>Software and Mechanical Engineer Intern</b> Spherene AG (Zurich, CH) Spherene is a startup developing autonomous design in the 3D-printing industry <ul style="list-style-type: none"><li>• Developed ANSYS workflow automation scripts for the engineering team (IronPython)</li><li>• Product use cases design, FEM analysis and 3D print with the custom software</li></ul>	2021-2022
Skills	<b>Languages:</b> English and Italian <b>Programming Languages:</b> Python, C++, Matlab <b>Robotics:</b> PyTorch, JAX, ROS, Git, Docker, SQL, AWS S3, EC2, SLURM <b>Hardware:</b> ANSYS, Solidworks, Catia, Inventor, 3D-Printing, PCB soldering <b>Web:</b> Nuxt.js, Vue.js, Tailwind, Bootstrap, Flask	
Awards	<b>1<sup>st</sup> Place</b> out of 19 teams in the Engineering Design event at FSG Driverless (2022) <b>1<sup>st</sup> Place</b> out of 66 teams in the Engineering Design event at FSG Electric (2022) <b>3<sup>rd</sup> Place</b> out of 17 teams in Formula Student Germany (FSG) Driverless overall (2021) <b>Scholarship winner</b> for study merits from the italian INPS association (2022)	
Interests	Gym, cooking risotto, used to be professional footballer	