

# Maximilian Krause

Zurich, Switzerland | maximilian.kra0@gmail.com | +41 76 204 4298

## Profile

Robotics engineer focused on high-fidelity simulation and scalable reinforcement learning systems.  
Experience building GPU-accelerated training environments and deploying RL pipelines in IsaacLab and NVIDIA Newton.

## EDUCATION

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| <b>University College London (UCL)</b>   <i>First-Class Honours in all classes</i><br><i>Exchange Semester</i> <ul style="list-style-type: none"><li>Course Highlights: Robotics and Control, Financial Engineering, Cryptocurrencies and Electrical Power Systems</li></ul>   | <b>London, United Kingdom</b><br>Sept. 2024 – January 2025 |
| <b>Federal Institute of Technology Zurich (ETH)</b><br><i>Master of Science, Mech. Engineering, Robotics and Control</i>   5.8/6.0 <ul style="list-style-type: none"><li>Course Highlights: <b>Machine Learning, Autonomous Mobile Robots, Robust Control and Convex Optimisation</b></li></ul>  | <b>Zurich, Switzerland</b><br>Sept. 2023 – February 2026   |
| <b>Federal Institute of Technology Zurich (ETH)</b><br><i>Bachelor of Science, Mechanical Engineering</i> <ul style="list-style-type: none"><li>Course Highlights: Embedded Systems, Control Systems I and II, Electrical Engineering I and II</li><li>Bachelor Thesis: Parameter Identification for <i>High-fidelity heat pump simulation</i></li></ul> | <b>Zurich, Switzerland</b><br>Sept. 2019 – June 2022       |
| <b>Gymnasium Tilemannschule</b><br><i>Abitur, Major in Mathematics &amp; Physics</i>   | <b>Limburg an der Lahn, Germany</b><br>2011 – 2019         |
| <b>Primary School</b>  | <b>Nyon, Switzerland</b>                                   |

## Academic Projects

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| <b>Reinforcement Learning in Material Point Method Enabled Environments</b> <ul style="list-style-type: none"><li>Leveraging NVIDIA's Newton Framework for RL using MPM</li></ul> <i>ETH Zurich   Robotics Systems Lab   Prof. Dr. Marco Hutter</i>              | <b>January 2026</b>  |
| <b>3D Training Environments for Excavation Agents</b> <ul style="list-style-type: none"><li>Development of Isaac Lab environments for soil manipulation and tool-terrain interaction</li></ul> <i>ETH Zurich   Robotics Systems Lab   Prof. Dr. Marco Hutter</i> | <b>July 2025</b>     |
| <b>Model Predictive Control Framework for Quadrotor Flight Stabilization and Trajectory Optimization</b><br><i>University College London   Francisco Vasconcelos</i>   | <b>December 2024</b> |
| <b>Structured Singular Value-Based Robust Control Design for a Twin Rotor MIMO System</b><br><i>ETH Zurich   Prof. em. Dr. Roy Smith</i>   | <b>March 2024</b>    |
| <b>Parameter Identification for High-fidelity heat pump modelling</b><br><i>ETH Zurich   Prof. Dr. Christopher Onder</i>   | <b>July 2022</b>     |
| <b>Assessment of Dual-Source Heat Pumps in Automotive Thermal Management Systems</b><br><i>ETH Zurich   Prof. Dr. Christopher Onder</i>  | <b>April 2022</b>    |

## FURTHER EDUCATION

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| <b>Harvard University</b><br><i>CS50AI – Computer Science Course with a special focus on Artificial Intelligence</i> | <b>Remote</b><br>2022 |
| <b>Harvard University</b><br><i>CS50 – Computer Science Course</i>   | <b>Remote</b><br>2022 |

## PRACTICAL EXPERIENCE

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| <b>NVIDIA</b><br><i>Software Engineering Intern(100 %)</i> <ul style="list-style-type: none"><li>Part of the IsaacLab team working on RL in Robotics and Simulation</li></ul>  | <b>Santa Clara, CA, USA</b><br>May 2026 – Sep. 2026                        |
| <b>Eigen Running</b><br><i>Co-Founder &amp; CEO</i> <ul style="list-style-type: none"><li><b>AI biomechanics</b> startup analysing human movement</li></ul>  | <b>Zurich, Switzerland</b><br>Jan. 2025 – Now                              |
| <b>Freelancer</b><br><i>Software Engineer with Focus on AI Integrations (50 %)</i> <ul style="list-style-type: none"><li><b>Built and deployed</b> 10+ projects for SMEs (mostly RL and/or LLM based)</li></ul>  | <b>Zurich, Switzerland</b><br>Jan. 2024 – April 2026                       |
| <b>ETH juniors   Technology Consultancy - ethjuniors.ch</b><br><i>Vice-President (100 %)</i> <ul style="list-style-type: none"><li><b>Operational Management and Team Leadership:</b> Operational management of company operations involving 12 board members and 180 employees. Achieved a significant increase in yearly revenue from CHF 3.8M to CHF 4.6M</li></ul> | <b>Zurich, Switzerland</b><br>Feb. 2023 – Dec. 2023                        |
| <i>Project Leader &amp; Software Engineer</i> <ul style="list-style-type: none"><li><b>Project Leadership:</b> Managed and executed 16 projects for clients such as UBS, Swiss Airlines</li></ul>  | <b>Zurich, Switzerland</b><br>Aug. 2022 – Dec. 2023                        |
| <b>Flex Suisse AG   flexsuisse.com</b><br><i>CTO &amp; Software Engineer (50 %)</i> <ul style="list-style-type: none"><li>Implemented new technologies/software to advance the digital standard as well as data retrieval and implemented artificial intelligence tools</li></ul>  | <b>Zurich, Switzerland and Frankfurt, Germany</b><br>Nov. 2021 – Aug. 2022 |
| <b>Freelancer</b><br><i>Data manager (40 %)</i> <ul style="list-style-type: none"><li>Categorized, analyzed, and completed about 11,000 data entries - Automated data evaluation by implementing automations using APIs and custom web scrapers</li></ul>  | <b>Zurich, Switzerland</b><br>May. 2021 – Nov. 2022                        |

## FURTHER ACTIVITIES

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| <b>Seeclub Zürich</b><br><i>Assistant Coach</i> | <b>Zurich, Switzerland</b><br>Sep. 2019 – Aug. 2022 |
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## EXTRACURRICULAR ACTIVITIES

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| <b>Tilemannschule Limburg</b><br><i>Head of Technology Team</i> <ul style="list-style-type: none"><li>Coordinated school IT and Technology (sound, visuals, stage settings, ...)</li></ul> | <b>Limburg an der Lahn, Germany</b><br>2016 – 2019 |
| <b>Limburg Club für Wassersport</b><br><i>Rowing Coach</i>   | <b>Limburg an der Lahn, Germany</b><br>2016 – 2019 |

## ADDITIONAL INFORMATION

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|----------------------|---|
| Languages:           | German (mother tongue), French (fluent/ mother tongue), English (fluent), Spanish (basics)                        |
| IT:                  | Python (PyTorch, Newton, IsaacLab, RSL-RL, Warp), HPC/Slurm, ROS, JavaScript (TypeScript) in Next.js, MATLAB, C++ |
| Interests & Hobbies: | Technology, Robotics, Entrepreneurship, and Sports  |
| Sports:              | Rowing as a competitive sport - <b>German Champion in the single scull</b> and training with German national team |