🤖🏎️ **Open Position: Master Thesis** — 6 Months

📍 **TUM Autonomous Vehicle Systems Lab** (TUM-AVS), Technical University of Munich, Germany

Are you passionate about **AI** 🧠, **robotics** 🤖, and high-performance **racing** 🏎️? Then this is the opportunity for you!

We are offering one position for a Master's thesis student on:

Agile Trajectory Planning in Competitive Multi-Agent Scenarios 🏁

Scope:
🏎️ Develop a new sampling-based trajectory planner for minimum-time racing
🤖 Integrate motion primitive generation methods (from neural networks to optimization-based algorithms)
🏁 Real-world deployment and validation on RoboRacer platforms (The Roboracer Foundation) in multi-vehicle racing scenarios

Requirements:
🧠 Strong critical thinking and independence
🔬 Research-oriented mindset
💻 Very good programming skills in C++, MATLAB / Python
🔧 Experience with ROS2 and experimental hardware

Expected Outcome:
📄 Journal or conference publication in a high-impact venue (RA-L, ICRA, IROS)

Timeline:
⌛ 6 months, starting between April–June 2026

Supervision:
• Dr. Mattia Piccinini (TUM-AVS)
• Prof. Johannes Betz (TUM-AVS)
• Prof. Francesco Biral (co-advisor, Università di Trento, Italy)

This opportunity places you at the intersection of AI, 🤖 robotics, and 🏎️ high-performance autonomous racing — with methods transferable to broader robotic systems including drones — a direct entry point into cutting-edge **AI-robotics research**!

✉️ **Apply** via email to: mattia.piccinini@tum.de

Subject line must include: [external research collaboration]

Note: This position is open to both Master's and PhD students, also from external institutions, as a visiting research opportunity at TUM-AVS.

Include in your application:

• CV

• Transcript of exam marks (for Master's students) or publication list (for PhD students)