

Motion Planning Software Engineer

Zurich, Switzerland

Embotech is an award-winning software scale-up developing autonomous driving solutions, with a focus on private-ground applications such as trucks at port terminals and passenger cars in factories. We bridge the gap between research and production, delivering safe autonomous transportation powered by physical AI.

We are looking for a Motion Planning Software Engineer to join the Motion Planning and Controls team and build full-stack L4 autonomous driving systems for private grounds. In this role, you will extend the capabilities of Embotech's core autonomous driving technology by designing, developing and testing motion planning software for our Automated Terminal Tractor and Automated Vehicle Marshalling applications. This includes existing customer deployments, where thousands of cars and a fleet of trucks drive daily in factories and ports, as well as new proofs of concept and customer projects.

We offer an exciting role in a fast-growing company with attractive conditions and flexible hours. Embotech develops innovative products in a modern and dynamic environment, and you can expect an international atmosphere with highly skilled colleagues who share a passion for excellence and efficiency. Join us to take your ideas from concept to deployment and tackle one of today's most complex challenges.

Responsibilities:

- Design, develop and optimise motion planning and control algorithms for L4 autonomous driving, owning features from concept to deployment.
- Integrate optimisation-based and learning-based approaches into our stack.
- Write and review modern C++ code using the latest AI tools, whilst adhering to software engineering best practices.
- Test the motion planning stack in simulation and on our own test vehicles.
- Document code, designs and test results clearly and concisely.
- Collaborate with systems, software and perception engineers to deliver a well-integrated autonomous driving stack.
- Review requirements and test specifications.
- Travel occasionally to customer or test sites.

Requirements:

- MSc or PhD in robotics, mechanical or electrical engineering, or computer science.
- Solid knowledge of and hands-on experience with motion planning in robotics or autonomous driving.
- Strong foundation in optimal control (e.g. MPC), optimisation and search algorithms.
- Ability to write, generate and carefully review production-quality code in modern C++.
- Passion for autonomous systems, a self-driven attitude and strong team spirit.
- Fluency in spoken and written English.
- Any of the following is a plus:
 - ML / RL
 - Real-time systems, system architecture
 - Rust, Lua, Matlab, Python, Docker, CI/CD
 - Vehicle dynamics
 - Experience in a similar role

This **permanent** position is based in our **Zurich office**, with a preferred start in **January 2027**.

We look forward to receiving your application documents (CV, cover letter and reference letters) by email:

careers@embotech.com

Contact:
Embotech AG
Hardturmstrasse 11
8005 Zürich, Switzerland
careers@embotech.com