— Master's Project —

Use a Descriptive Title

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Project Proposal

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Figure 1: Replace the file `./figs/overview.pdf` with a photo or diagram that catch the eye.

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Research Environment

The project will be hosted by the Northern Robotics Laboratory (norlab) located on the main campus of Laval University. The university was established in 1663, making it the oldest academic institution in Canada and the first school to offer higher education in French. It currently enrolls 50 000 students, from which around 9000 are at the postgraduate level. Norlab is specialized in mobile and autonomous systems working in winter or difficult conditions. We aim at investigating new challenges related to navigation algorithms to push the boundary of what is currently possible to achieve with a mobile robot in real-life conditions. The current focus of the laboratory is on localization algorithms designed for laser sensors (lidar) and 3D reconstruction of the environment.

References

[1] F. Pomerleau, F. Colas, R. Siegwart, and S. Magnenat, "Comparing ICP variants on real-world data sets," *Autonomous Robots*, vol. 34, no. 3, pp. 133–148, 2013.

[2] F. Pomerleau, P. Krusi, F. Colas, P. Furgale, and R. Siegwart, "Long-term 3D map maintenance in dynamic environments," in *2014 IEEE International Conference on Robotics and Automation (ICRA)*, Hong Kong, China: IEEE, 2014, pp. 3712–3719.