

Master thesis

## **Autopilot for Rescuerunner Waterjet**

The water scooter Rescuerunner<sup>1</sup> is a very capable sea rescue craft developed and used by the Swedish sea rescue society. However, it has the drawback that it is hard work to drive in high seas, and at the same time it is hard to tow or to launch from a larger ship in the same environment. The idea is to instead have it to autonomously follow a larger mothership at a distance.

The challenge is that it is not enough to steer towards the mothership at a certain distance, as the dynamics of a small boat in high seas makes it necessary to also adopt the heading and steering to the waves.

The project involves study of the environment and ship dynamics, identifying the necessary input signals, and designing an autopilot.

The project is done in collaboration with SSRS, and there is the possibility to test the final result in the sea we have access to a remote controlled Rescuerunner.

Contact:

- Anders J Johansson, Anders\_j.Johansson@eit.lth.se. Docent, Universitetslektor vid Kommunikationsteknologi, LTH Lunds Universitet, Telefon: +46 46 222 90 27 [https://portal.research.lu.se/portal/sv/persons/anders-johansson\(a94e33fc-e7de-4a2d-950f-25caeb8090a8\).html](https://portal.research.lu.se/portal/sv/persons/anders-johansson(a94e33fc-e7de-4a2d-950f-25caeb8090a8).html)
- Anders Robertsson, Anders.Robertsson@control.lth.se. Professor vid Institutionen för reglerteknik. Telefon: +46 46 222 87 90 <https://www.control.lth.se/staff/anders-robertsson/>

<sup>1</sup> <https://www.sjoraddning.se/rescuerunner>