Damen Research Development & Innovation B.V.

16-7-2025

Internship or graduation project: autonomous shipping

Damen RD&I

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Link to apply: Career at Damen

Background

Damen Shipyards is a leading Dutch shipyard. The entire Damen group consists of more than 30 subsidiary companies both in the Netherlands and abroad, employing 12000 people worldwide. The central research department of Damen, located at Gorinchem, is actively investigating technologies for autonomous shipping.

Objective

As a student working for the automation research team, you will work on one of the novel technologies related to autonomous shipping. This includes both full autonomy and captain support systems, which are steppingstones towards full autonomy.

We are currently looking for a student to progress the work of two previous MSc. theses at Damen related to path planning. Both theses showed promising results of Model Predictive Path Integral control (MPPI) for generating vessel trajectories in presence of other vessels and geographic constraints. The work has so far focused on simulations, and, as a next step, we are looking for further adaptation of these algorithms to realistic real-world scenarios, including full-scale validation on the rivers of the Netherlands. For this, you as a student would first use our 1.1 m scale model vessel to test your algorithms by yourself. After successful demonstrations on this platform, the same algorithms should be implemented on our 12m research vessel on the river Merwede.

As autonomous shipping is a relatively broad knowledge area, we also offer assignments in topics such as vessel dynamics and control, sensor systems and fusion, remote operations, and human-machine interfacing. Application for these assignments is done by visiting our website: Career at Damen.

Figure 1: Test platforms used during the assignment: a fully-equipped scale model vessel and a 12m research vessel.

Practicalities

- The internship will be performed at Damen headquarters in Gorinchem
- Damen provides an internship allowance and travel reimbursement
- Damen RD&I will support the student with supervision and feedback

Interested candidates are encouraged to get in touch with the contact points at Damen & TU Delft.