

Next Ocean

Next Ocean is start-up that aims to increase safety and workability for operations at sea. We developed technology to turn an ordinary navigation radar (available on every sea-going ship) into a powerful remote wave sensor, enabling us to predict approaching waves and resulting motions of the ship up to more than 3 minutes in advance. This allows crew to anticipate for optimal timing of critical operations like transferring people to wind turbines or putting a turbine foundation on the sea bed. We are in the process of making our software more and more self-learning and autonomous, offering ample opportunities for system and control students to make a difference...

Internship

Main input source for Next Ocean's analysis is the ship's radar with its antenna rotating at typically 25 – 50 RPM. Accurate earth fixed spatial referencing of the data collected from the radar is crucial. This involves GPS location measurement, and compass heading from the vessel. The system also contains a motion reference unit (MRU) providing rotational gyro velocities and translational accelerations.

Ship's compass heading values typically have a low resolution and low update rate. In order to enhance the accuracy of spatial referencing, a start has been made with testing and development of sensor fusing of the MRU and vessel heading compass. Next Ocean is looking for an internship candidate to further test/validate the approach with available field data.

If time allows, extending the idea of sensor fusing to also enhance accuracy of GPS position measurements is of interest.