

blkSAIL

Member Success Case Study

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The same technology driving autonomous vehicle research is being deployed to a wide range of applications, from wheelchairs to drones. With new developments in robotic mobilization, the sky—or sea—’s the limit, extending to aquatic operations with autonomous watercraft and fleet monitoring.

Opening up these possibilities is a set of open-source C++ modules [MOOS-IvP](#), which provides autonomy on robotic platforms with a focus on autonomous marine vehicles. Core developers for the project, including research scientist Dr. Michael Benjamin, are part of the Marine Robotics Group in MIT CSAIL.

Because the project is open-source, companies that rely on modeling robot dynamics have been able to use MOOS-IvP to advance their prototypes and products so they are in ship shape for market. For example, CSAIL Alliances Startup Connect member [blkSAIL](#) turned to MOOS-IvP and other MIT open-source projects to help launch their business.

“When blkSAIL got its first contract to deploy an autonomous navigation system on the world’s first autonomous ferry, it was given only three months to deliver a fully functioning prototype that is capable of sailing a 50-meter vessel,” says blkSAIL Founder and CEO Mohamed Saad Ibn Seddik. “The startup was only capable of building such a complex system — capable of COLREGs collision avoidance and grounding prevention — thanks to MOOS-IvP.”

Since then, MOOS-IvP has empowered the ocean technology company to make headway in tracking the course of whole fleets in the global shipping industry. “The tremendous amount of work that has been put into this open-source project by Dr. Michael Benjamin and other researchers, students, and contributors empowered the company to take on a challenge much larger than it would have been able to with the limited resources available,” he says.

Maritime AI technology can detect ship course trajectories and help [prevent collisions that lead to oil spills](#). This use of data and AI for navigation also matters for security reasons, with [shipping cyberattacks spiking massively](#) since the start of COVID-19 lockdowns. “blkSAIL has since continued deploying autonomous systems and decision aids around the globe that aim to prevent accidents and help set sail to an autonomous future.”

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