Contact: Andrea Acevedo
aacevedo@predictiveiq.com

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PredictiveIQ
361 Newbury Street, Fifth Floor
Boston, MA 02115
https://www.predictiveiq.com/

PredictiveIQ awarded a Sequential Phase II SBIR by the US Army

- PredictiveIQ Generalized Physics Informed AI to enable Prognostics & Predictive Maintenance (PPMx) in US Army Combat Vehicles

Boston, MA – September 4, 2024 – PredictiveIQ is thrilled to announce that it has been awarded a Sequential Phase II Small Business Innovative Research (SBIR) contract by the US Army to demonstrate its advanced Generalized Physics Informed AI algorithms to enable Prognostics and Predictive Maintenance (PPMx) in Combat Vehicles.

"We are honored and humbled to have received this award from the US Army," said Juan F. Betts, CEO at PredictiveIQ. "This effort will PredictiveIQ's capabilities will increase operational readiness, enable the US Army to persistently upgrade platforms at the pace of threat evolution, reduce costs by increasing reliability and reduce risk by enabling predictive & prescriptive mission specific precision logistics insights."

Problem Description

Timely maintenance of ground combat vehicles provides a significant operational advantage for U.S. Army Forces. The current health of vehicle components is currently gauged with subjective checks and preventative maintenance. Inconsistent checks and inadequate maintenance drive up fleet costs for the Army. Significant challenges in Condition-Based Maintenance include the development of accurate physical, and material science-based methods that utilize existing sensor networks. In addition, a challenge is ensuring data flows smoothly from components to data analysis systems to achieve a high level of security and reliability with a low level of latency. Lastly, a challenge is the integration of the overall logistics systems to automate a process for equipment maintenance, including scheduling the closest available field technician with the necessary tools, spares, and expertise.

Solution

PredictiveIQ's Generalized Physics Informed AI uses advanced mathematics, novel neural architectures, and physics informed machine learning (PIML) methods to improve predictive accuracy while being data efficient and generalized (i.e. can predict both inside and outside its training population). PredictiveIQ's solution employs a modular open system approach (MOSA) and aligns with the US Army's Digital Engineering priorities.

About PredictiveIQ.

PredictiveIQ develops Generalized Physics Informed AI powered Digital Twins that utilizes advanced data-driven neural concepts and physics informed machine learning (PIML). These algorithms reduce by orders of magnitude (1,000X) the amount of ML training data, increases predictive accuracy, improves generalization, and enables modular updating. This capability can be deployed, embedded, on-edge or on-cloud, providing our customers with real-time actionable decision making. A leading application for this capability is Predictive Maintenance Digital Twins, which can be applied in industries such as: Defense, Mining, Transportation, Oil & Gas, Agriculture, Marine, Automotive, and Aerospace.

For more information visit our website https://www.predictiveiq.com/