



AFICIONADO

Federated system for optimizing intelligence collection management and planning

Charles River Analytics is applying AI optimization techniques and best practices in human-machine interface design to improve intelligence collection planning by the US Army and its partners.

April 5, 2022

Charles River Analytics Develops AI System for Optimizing Intelligence Collection Planning

Charles River Analytics was awarded funding by the US Army to develop an improved system for intelligence collection planning and management.

Human collection managers usually create intelligence collection plans by relying on personal experience and judgment. This process is time-consuming and cognitively challenging, and can lead to redundancies, inefficiencies, and critical information gaps.

To address these challenges, Charles River Analytics is creating AFICIONADO (Achieving Federated ISR Collection through Intelligent Optimization and Natural AI supported Decision Operations). By employing AI optimization techniques and best practices in human-machine interface design, AFICIONADO will improve individual use and enable cross-unit coordination.

“AFICIONADO provides a unified workspace for information collection planning across echelons and planning groups,” according to Dr. Tyler Mayer, Scientist at Charles River Analytics and Principal Investigator for AFICIONADO. “It will serve as a catalyst for changing the current, largely manual workflow, which is extremely laborious, into a streamlined, collaborative one.”

At the individual level, AFICIONADO will provide an interactive workspace for collection managers to specify their requirements, objectives, and available resources. A recommendation engine will use this information to create multiple plan options, optimizing for competing objectives. Collection managers can select plans and then iteratively refine them.

At the enterprise level, AFICIONADO’s arbitrage agent will monitor plans generated by many units, identify opportunities to improve efficiency, and recommend coordinated plans for collection managers to consider. Decisions at the unit level will be communicated back to the arbitrage agent.

By improving intelligence collection, AFICIONADO will enable coordinated mission management for the Army and its partners in joint missions. Innovations developed under AFICIONADO could be adapted for optimizing resource allocation in the private sector, particularly the utilities market.

Contact us to learn more about AFICIONADO and our capabilities in optimization and human-machine interface design.

This material is based upon work supported by the US Army under Contract No. W56KGY-21-C-0017. Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the US Army.