Recently developed AI system can calculate delays and predict hazards, interruptions in aviation

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An AI system has been developed through a project at Mälardalen University (MDU) that can calculate delays and predict hazards and interruptions in aviation. The system will not only be able to assist air traffic controllers to predict and communicate the disruptions to passengers and operators in the aviation industry, but also prevent the actual disruptions.

Researchers at MDU have developed a prototype for an AI system, intended for ATM operators working in air traffic control. In ATM (Air Traffic Management), it is important for operators to optimize traffic flows, detect potential collisions between aircraft and provide guidance to avoid them. The AI system is a predictive application that provides both optimal solutions to operators, and also explains why they are optimal.

The system is built in an environment with XAI (Explainable Artificial Intelligence), involving reliable solutions that are easy for operators to understand. It uses a 2D/3D map to visualize all possible solutions, highlights the best option, and provides guidance to pilots or air traffic controllers to maintain a safe distance between aircraft.

Input from human end users

The solution has been developed within the scope of the Artimation project at MDU. The project has used input from human end users to develop the AI system.

"The project results will improve the functionality, acceptance and the reliability of AI systems in general, but also meet global goals such as the improvement of industry, innovation and infrastructure in society," says Mobyen Uddin Ahmed, Professor of Artificial Intelligence at MDU.

"The results from the project will also be useful for other AI researchers,

who can take advantage of the research when it comes to the transparency and explainability of AI methods. In addition, technology providers will benefit from the results, which will hopefully lead to AI systems that will become more communicative and reliable for human users," says Shahina Begum, Professor of Artificial Intelligence at MDU.

Provided by Mälardalen University (Malardalen University)

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