T J H . I A d A :
E ab a F T A S

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ABSTRACT

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Once ready, Jake comes downstairs to have breakfast with his children; before sitting down he quickly checks his front door drone-landing pad. Sure enough, there is a package. Selecting a

preventing their escape and ability to harm other passengers. As he gets closer to the station, Jake launches his vehicle's wingman drone to surveil the scene and provide the latest situational awareness. Arriving ahead of Jake is a Vertical Takeoff and Landing (VToL) emergency care vehicle, which deploys autonomous drones to seek out victims and assess their health and status. Jake helps establish an on-scene command hub that fuses the input from all drones, cameras, sensors, and citizen mobile device feeds to create a common operational picture of the situation. The shooters are rapidly cornered and apprehended by a human–machine team of officers, drones, and sensors that have trained repeatedly together for this kind of scenario. Lives were saved, the scene is cleared, and train operations resume.

three advanced AI, machine learning, and human

ability to override the system's actions. New human-system engineering techniques are needed to ensure autonomous systems will be smoothly and readily adopted into society. Relevant IAA-funded projects include:

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