

A Systems Engineering Approach to Search and Rescue Operations

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Author Note: Our client for this Capstone Project is the Department of Defense's Joint Artificial Intelligence Center (JAIC), an organization that works to harness the power of Artificial Intelligence (AI). The JAIC uses different forms of AI to develop new military and government capabilities as well as increase efficiency within already existing programs. The JAIC is divided into six different mission initiatives. This project supports the JAIC's Humanitarian Assistance and Disaster Relief (HADR) initiative to advance search and rescue operations through technical platforms in order to optimize response times and effectiveness by better connecting victims with first responders with the proper critical lifesaving equipment.

Abstract: The Department of Defense is often called upon to support Humanitarian Assistance and Disaster Relief efforts to include domestic Search and Rescue operations. The key to success in these operations is the rapid identification of the location of the incident, equipment required, and the conditions of injured personnel. This research focused on improving search and rescue operations through the means of a technological platform to collect and organize vital information. The project seeks to develop a program architecture that will model a response system that will efficiently and effectively connect victims to first responders.

Keywords: Artificial Intelligence, Search and Rescue, Response Time