

MAHDI AL-HUSSEINI, P.E.

mahdial-husseini.com

mahdi.alhusseini.mil@army.mil • 1003 Homestead Way, Enterprise, AL 36330 • (404) 771-3315

EDUCATION

Stanford University	PhD, Aeronautics and Astronautics Masters, Aeronautics and Astronautics 3.90/4.0 Masters, Business Administration (Deferred Admit)	March 2027
The Georgia Institute of Technology	Masters, Computer Science: Robotics 4.0/4.0 Bachelor of Science, Biomedical Engineering 3.79/4.0 Bachelor of Science, Public Policy 3.79/4.0	July 2020 May 2018 May 2018

EXPERIENCE

United States Army Active Duty – Aeromedical Evacuations Officer (67J); Wheeler AAF, HI July 2018 – Present

- Pilot an HH-60M helicopter and strategically employ medical aircraft, personnel, and equipment to support the Army mission.

Vita Inclinata – Board Observer, Control Engineer; Broomfield, CO September 2020 – September 2023

- Support the design, development, and field integration of various Load Stability System (LSS) products.

Anti-Rotational Technologies Inc. – CEO, Founder, Control Engineer; Atlanta, GA May 2018 – September 2020

- Direct a team of engineers designing, developing, and testing SALUS (Stabilizing Aerial Loads Utility System), an operationally unobtrusive reaction-wheel stabilization assembly designed to support the medical evacuation mission. Acquired by Vita Inclinata

Emory Center for Mathematics and Computing in Medicine (E(CM)²) – Researcher; Atlanta, GA August 2017 – December 2018

- Construct geometries for hypothetical surgical procedures to determine blood-flow turbulence in relevant blood vessels.

National Aeronautics and Space Administration (NASA) Ames – Intern; Mountain View, CA June 2017 – July 2017

- Developed a database with an interactive front-end interface designed to aggregate data from a network of embedded sensors.

PATENTS

- **11535496** [December 27, 2022] Device for stabilizing a hoist object
- **11613365** [March 28, 2023] Electromagnetic device for an ejector-spring static line reserve parachute
- **12099337** [September 24, 2024] Control Moment Gyroscope Hoist Stabilization System, Method, and Apparatus
- **12136277** [November 5, 2024] Collection, Processing, and Output of Flight Information Method, System, and Apparatus
- **Design Patents: D919583, D942534, D1039243, D1039701**
- **Additional Patents:** AMC-1, 20220180647, 20230117935, 20+ applications, including (AMCs 2-12) via the Army Research Lab

RESEARCH AGREEMENTS

ARL-Stanford CRADA 20-017-002 – Technical POC, Lead Researcher Fall 2023

- Joint Work Statement: Hierarchical Framework for the Dynamic Resource Allocation of Heterogeneous Medical Evacuation Assets

USAARL-SALUS CRADA 20-069 – Principal Investigator Fall 2019

- RDT&E of an Anti-Rotation Stabilizing Aerial Loads Utility System (SALUS) Device

ACADEMIC PAPERS (all first author)

- *Journal of Aerospace Information Systems:* Hierarchical Framework for Optimizing Wildfire Surveillance and Suppression using Human-Autonomous Teaming Fall 2024
- *Air Medical Journal:* Watercraft Ambulance Exchange Points to Enhance Aeromedical Evacuation Fall 2024
- *Parameters:* Bridging Sky and Sea – Joint Strategies for Medical Evacuation in the Indo-Pacific Spring 2025
- *IAAI-25:* Semi-Markovian Planning to Coordinate Aerial and Maritime Medical Evacuation Platforms Spring 2025
- *Aura:* An Intelligent System for the Real-Time Evaluation of Flight Maneuver Performance (peer-review) --
- *Oculometric Assessment of Human Risk Factors in Military Aviation* (peer-review) --
- *Semi-Decentralized Control of Multiagent Systems in Partially Restricted Communication Environments* (in preparation) --

ADDITIONAL INFORMATION

Academic Reviewer: IEEE Robotics and Automation Letters, Journal of Aerospace Information Systems

Certifications: Professional Engineer – Electrical (2023), USPA B License (2022), FAA CML Pilot License + Instrument [ASEL/S, AMEL/S, RW], FAA Certified Flight Instructor [ASE], USPTO Licensed Patent Agent (2020), FCC Amateur Extra Radio License (2020)

Military Education: Military Free Fall Basic, Airborne School, Army Medical Basic Office Leadership Course, SERE-C, Army Combatatives I, Initial Entry Rotary Wing Training, Helicopter Over-Water Survival Training, Aviation/Army Medical Captains Career Course