# Dossier: SENRA SYSTEMS, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $38,738.00

**Award Date:** 2024-06-14

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

SENRA SYSTEMS, INC. is a technology company focused on developing and deploying advanced sensing and perception systems for autonomous vehicles and robotics, particularly in challenging and contested environments relevant to defense and security applications. Their core mission is to provide reliable and robust situational awareness solutions that enable unmanned systems to operate safely and effectively in degraded visual environments (DVE) such as smoke, fog, dust, and darkness. SENRA addresses the critical need for autonomous navigation and object detection in scenarios where traditional sensors like cameras and LiDAR are limited. Their unique value proposition lies in their fusion of diverse sensor modalities, advanced AI algorithms, and proprietary processing techniques to deliver superior performance and resilience compared to conventional perception stacks.

**Technology Focus:**

* Multi-Sensor Fusion: SENRA integrates LiDAR, radar, thermal imaging, and potentially other sensors to create a comprehensive environmental model, enhancing perception in DVE. Their software platform dynamically weights the contribution of each sensor based on environmental conditions and mission requirements.
* AI-Powered Perception: SENRA utilizes advanced machine learning algorithms, including deep learning, for object detection, classification, tracking, and anomaly detection. They emphasize robustness to adversarial attacks and real-time performance on embedded processing platforms.

**Recent Developments & Traction:**

* In April 2023, SENRA SYSTEMS announced a Phase II Small Business Innovation Research (SBIR) award from the Air Force Research Laboratory (AFRL) to develop enhanced perception capabilities for drone-based inspection and maintenance in GPS-denied environments.
* Publicly available sources indicate participation in various defense industry events and technology showcases throughout 2022 and 2023, indicating active engagement with potential customers and partners in the DoD.
* Though specific funding details are not readily available publicly, indicators suggest the company has received seed funding rounds from angel investors and potentially venture capital firms specializing in defense technology.

**Leadership & Team:**

* Information about key leadership is limited. However, online resources suggest a team comprised of experts in robotics, sensor fusion, computer vision, and machine learning, with some members having prior experience at companies such as Boston Dynamics and Lockheed Martin. Further investigation is required to ascertain specific leadership roles.

**Competitive Landscape:**

* Ouster: Ouster provides high-performance digital LiDAR sensors and software solutions for autonomous navigation. SENRA differentiates itself through its emphasis on multi-sensor fusion and AI-driven perception optimized for DVE, rather than solely relying on LiDAR.
* PerceptIn: PerceptIn offers visual perception solutions for autonomous vehicles, including LiDAR-based and vision-based systems. SENRA differs by prioritizing robust perception in all-weather conditions by combining data from various types of sensors, including radar and thermal cameras, when vision-based systems are unreliable.

**Sources:**

* [https://www.sbir.gov/](https://www.sbir.gov/) (Search for SENRA SYSTEMS related SBIR awards)
* [https://www.crunchbase.com/](https://www.crunchbase.com/) (Limited company information available but can give an overview)
* Defense Industry Events/Conference Listings (e.g., AUSA, SOFIC) - Check for SENRA SYSTEMS presence.