# Dossier: RUSH RIVER RESEARCH CORP

## SBIR Award Details

**Award Title:** N/A

**Amount:** $140,000.00

**Award Date:** 2024-08-01

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Rush River Research Corp. (RRRC) is a US-based company specializing in the development and application of advanced artificial intelligence (AI) and machine learning (ML) solutions for complex sensing, signal processing, and decision support problems, primarily targeting the defense, aerospace, and intelligence communities. Their core mission appears to be to enhance situational awareness, improve operational efficiency, and accelerate decision-making in critical mission environments by delivering cutting-edge AI/ML capabilities. They aim to solve the problem of information overload and slow processing speeds in the face of increasing data volume and complexity by automating analysis, identifying patterns, and predicting potential threats. Their unique value proposition lies in their focus on real-time, embedded AI/ML solutions that can be deployed on resource-constrained platforms, enabling AI-driven insights at the edge, closer to the source of data.

**Technology Focus:**

* Real-time AI/ML for Sensor Fusion:\*\* Developing algorithms and systems that fuse data from multiple sensors (e.g., radar, EO/IR, acoustic) in real-time to create a more complete and accurate picture of the environment. Focus seems to be on enhancing target identification and tracking performance in cluttered and contested environments.
* Embedded AI/ML for Signal Processing:\*\* Designing compact, power-efficient AI/ML accelerators and software for signal processing applications, such as electronic warfare (EW), communications intelligence (COMINT), and signal identification. This includes techniques for low-latency inference and on-device learning.

**Recent Developments & Traction:**

* SBIR/STTR Funding:\*\* Multiple Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards from the Department of Defense (DoD) for projects related to AI-enabled sensor processing and target recognition.
* Partnerships with Defense Contractors:\*\* Partnerships with larger defense contractors to integrate RRRC's AI/ML capabilities into their existing systems and platforms. Specific details are sparse, but the company website highlights various engagements with unnamed primes.
* Algorithm Development:\*\* Development of new AI/ML algorithms for improving the accuracy and speed of object detection, tracking, and classification in challenging environments, with a focus on addressing adversarial attacks and data spoofing.

**Leadership & Team:**

Information on leadership is difficult to confirm due to the company's limited public profile. Public profiles suggest:

* Dr. Paul Hemler (President): Holds a PhD in Engineering with a focus on signal processing and machine learning.

**Competitive Landscape:**

* Shield AI:\*\* Competes in the development of AI-powered systems for defense applications. Differentiator: RRRC's focus on embedded solutions and signal processing could set them apart.
* Anduril Industries:\*\* Develops advanced AI-powered defense technologies. Differentiator: RRRC is potentially more focused on specific AI/ML algorithms and signal processing techniques, whereas Anduril offers broader, more integrated systems.

**Sources:**

1. https://www.sbir.gov/

2. https://www.defense.gov/

3. [Various business directories - Crunchbase, ZoomInfo - While not direct sources of information, they aid in identifying key personnel. Direct URLs not listed as they largely aggregate publicly available data.]