I/UCRC: CARFS
Center for Advanced Research in Forensic Science

Anomalous Detection of Engine Data

PI: Dr. Tom Johnsten

Computer Science/SoC

UNIVERSITY OF SOUTH ALABAMA

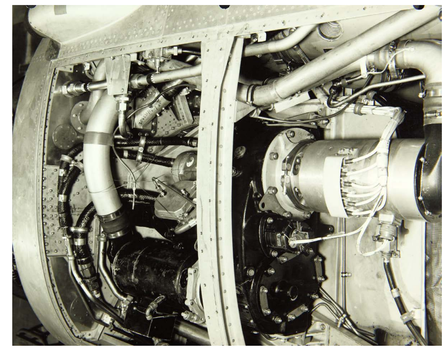
DFII: Digital Forensics Information Intelligence

RELEVANCE / OBJECTIVES

- Aircraft Engines are again aging and are still in productions and have very little if any modern data capture technology useful in forensic investigation
- Externally mounted sensor arrays could be mounted as a retrofit to these engines during the required rebuilding
- Data captured may be able to establish engine operational anomalies

APPROACH / TECHNIQUES

- Develop a sample sensor array appropriate for a given aircraft engine based on provided data.
- Establish the base line for normal operation under various conditions.
- Apply big data research techniques.



MILESTONES / DELIVERABLES

- **4 months**: Acquire, categorize, and pre-process engine sensor data
- **8 months**: Design, implement and conduct initial evaluations of proposed methods
- **12 months**: Refine methods and conduct an extensive evaluation

INDUSTRY BENEFITS

- Pre-processed datasets for anomaly detection evaluation
- Code demonstrating the proposed functionality to detect potential abnormal engine events.
- Technical report detailing anomaly detection methods implemented to detect potential abnormal engine events and experimental results.