

## **JEFFERY LEE WILLIAMS**

September 26, 2026

**EDUCATION:** Southern Methodist University, Ph.D., 2012  
Major: Engineering Systems  
Dissertation: A Methodology for Design of a System Development Program Organization

University of West Florida, M.A., 1988  
Major: Mathematics  
Thesis: A Mathematical Framework for Evaluating Models of Warfare

University of West Florida, B.A. 1981  
Major: Mathematics

## **HONORS**

Scholastic All American

National Collegiate Achievement Award in Mathematics

## **PROFESSIONAL ASSOCIATIONS**

Oct. 2025 Chair INCOSE Requirements Working Group

2024 Co-Chair INCOSE Requirements Working Group

2005 President of the North Texas Chapter (NTX) of the International Council of System Engineers (INCOSE)

2010 Vice President of Technology for NTX INCOSE

Board of Director Member of NTX INCOSE 2003-10

2014 – 2018 SAE – S-18 Aircraft and Systems Development and Safety Committee

2018 SAE – AE-7D Aircraft Energy Storage and Charging Committee

## **TEACHING EXPERIENCE PRIOR TO UAH**

Calhoun Community College, Huntsville, AL

Adjunct Professor (1989 – 1990). Taught College Algebra, Pre-Calculus with Trigonometry, and Calculus.

Southern Methodist University

Adjunct Professor (2013) for the Lyle School of Engineering, Engineering Management and Information Systems. Classes taught:

EMIS 7301 Systems Engineering Processes  
EMIS 7310 Systems Engineering Design

**EXPERIENCE:**

UNIVERSITY OF ALABAMA IN HUNTSVILLE, Huntsville, AL

Clinical Assistant Professor for Industrial & Systems Engineering and Engineering Management (ISEEM), (1/26 – Present). Teach courses in Systems and Engineering Management and guide Ph.D. candidates in their research in support of their dissertations.

Lecturer for ISEEM, (8/24 – 1/26) Teach courses in Systems and Engineering Management and guide Ph.D. candidates in their research in support of their dissertations.

Adjunct Professor (8/22 – 8/24) Developed and taught the Model Based Systems Engineering course in Requirements Management (ISE 628). Taught ISE 628 Introduction to Engineering Reliability, and ISE Engineering Systems.

AEROJET ROCKETDYNE, Huntsville, AL

Systems Engineering Integrated Team (SEIT) Lead (2019 – 1/24) on two high profile flagship programs for the Missile Solutions business sector. *Note that for security reasons Aerojet Rocketdyne does not allow employees to name the programs worked on.*

SECURAPLANE TECHNOLOGIES, Tucson, AZ

Manager of Systems Engineering and Subject Matter Expert (2013 – 2019) responsible for standing up the Systems Engineering organization. Responsible for (a) the development of the systems engineering department; (b) staffing, training, and mentoring of assigned engineers; (c) codification of systems engineering processes; (d) overseeing the execution of all programs to ensure that the proper systems engineering processes are followed in order to ensure successful program execution; and (e) integration of system safety with systems engineering. In 2018 Dr. Williams relocated from Tucson, AZ to Huntsville, AL and worked remotely as Securaplane's Subject Matter Expert (SME) providing systems and safety guidance for its programs.

NEW YORK AIR BRAKE, TRAIN DYNAMIC SYSTEMS, Dallas, TX

Manager Systems Engineering (2011 – 2013) responsible for rescuing a program that was behind schedule, overbudget and at risk of cancellation. Integrating the team of skilled engineers and project managers into an effective team and putting the program back on schedule. Developed a reliability and safety team capable of

ensuring that the software being developed to control iron ore trains in the outback of Australia without the aid of locomotive engineers. Codified the systems engineering process model,

Program Manager (2012 – 2013) Assumed Program Management responsibilities for the development of the Driver Strategy Engine (DSE) for Rio Tinto's AutoHaul™ program in Western Australia. The DSE is software engine that autonomously drives iron ore trains over 1,400 km of track without the assistance of a locomotive engineer.

#### BELL HELICOPTER, Hurst, TX

Lead Systems Engineer for the USMC H-1 Upgrade Program (2004 – 2008) until the program was moved to Amarillo, TX. Primary focus has been to develop a systems engineering focus for the program and to reverse the damaging effects of a lack of systems engineering focus from previous program administrations.

Bell Helicopter Technical Resource Specialist (TRS) for Requirements Definition and Lifecycle Management (2008 – 2009) Reported to the Director of Systems Engineering and responsible for the for developing systems engineering processes for Bell and performing systems engineering training. In addition, he supported all programs as an expert technical and process resource. Trained Bell and Textron personnel in requirements engineering and use of requirements management tools. In addition, he led systems engineering effort for the Bell Helicopter CMMI initiative.

Lead Systems Engineer for the business initiatives in India (2008) Lead the systems engineering effort for Bell Helicopter's initiatives in India. Continued to also function as the Bell TRS and continue to guide and train critical programs in the proper application requirements engineering. Bell would make the economic decision to abandon its initiatives by the end of 2008.

Lead for the Bell V-22 Requirements Engineering (2009 – 2011) Focused on developing the maturity of the systems engineering staff and integrating the systems engineering process throughout Bell's engineering activities on the V-22 program. Credited with the turnaround of that organization and improved performance of the team.

#### Elbit Fort Worth, Inc., Ft. Worth, TX

F-16 Lead Systems Engineer (2003 -2004). Served as the lead systems engineer and technical program manager (TPM) for the F-16 Legacy systems developed and supplied to Lockheed until March of 2004. In parallel with the F-16 program, served the TPM responsible for the capture of the F/A-18E/F Multi-Year II Displays

Program. Upon its award in March of 2004, served as both the TPM and lead Systems Engineer.

#### L-3 Communications, Arlington, TX

Lead Systems Engineer (1999 – 2003) During this time multiple roles would be taken on for L-3 Communications. Initially, functioned as senior systems engineering support to the AVCATT-A program. The AVCATT-A program was to design, develop and deliver reconfigurable rotary wing aircrew training systems in a self-contained set of commercial trailers. Then transition to Lead Systems Engineer on the FY00 program which is responsible for upgrading the F/A-18 E/F training devices at Lemoore NAS, CA. This was followed by a 10-month assignment codify the systems engineering process. In addition, support the preparation for the SW-CMM based assessment and lay the groundwork for a future CMMI assessment. In preparation for the assessment *Introduction to CMMI* training course presented by the Software Engineering Institute in Pittsburgh, PA was completed. Afterwards, role of the Lead Systems Engineer for the F/A-18 C and E/F product line of training systems was assumed. Responsible for all systems engineering tasks on the F/A-18C Distributed Mission Trainer (DMT) program. These programs were targeted programs for the SW-CMM assessment.

#### LITTON DATA SYSTEMS, Agoura Hills, CA

Performed many Systems Engineering and Proposal Management Roles (1994 – 1999).

Simultaneously served Principal Systems Engineer (PSE) for the Land Warrior Proposal and the Common Hardware & Software 2 (CHS-2) Program. In addition, served as the PSE for the development of the communication protocols for the Handheld Terminal Unit (HTU) under the SCO-5 Operating System.

PSE and on-site proposal manager for the FIREFINDER Proposal. Responsible for leading the development of the Command, Control, and Communications (C3) portion of the system design and managing the day to day proposal activities for the division.

System Architect for the Kuwait C4I System (KC4IS) proposal. Responsible for coordinating and designing a complete system architecture, to include hardware, software, communications and logistics. Led the engineering team and established the architecture that was proposed.

PSE for the development of the Theater Missile Defense System Exerciser (TMDSE) AN/TYQ-82. Responsible for providing technical leadership and ensuring that the program meets the technical expectations of the customer without over engineering

the system; thereby, ensuring that the program was completed on schedule and within budget.

Principal System Engineer (PSE) for the Italian Link 16 Simulator development program. Responsible for providing the technical leadership to ensure that all of the system requirements are met while staying within the budget of this firm fixed price contract and ensuring that all contract milestones are met.

System Architect for Litton's Area Air Defense Commander (AADC) program. He was responsible for ensuring the creation of a balanced system design that could be developed in the follow-on Engineering Manufacturing and Development (EMD) phase of the program.

#### LOCKHEED MISSILES & SPACE COMPANY, Huntsville, AL

Principal System Architect (PSA) for Battle Management, Command, Control, Communications and Intelligence (BM/C3I) segment of the Theater High Altitude Air Defense (THAAD) Program (1989 – 1994). *Note that the THAAD system is now known as the Terminal High Altitude Area Defense (THAAD) system.* responsible for all technical aspects of the design of the BM/C3I subsystem. Responsible for the development of both the hardware and software architecture that resulted in Lockheed Missiles and Space Company (LMSC) winning the THAAD DEM/VAL competition. He led the team of LMSC engineers and subcontractors that developed the winning design. He then led that same expanded technical team in the implementation and maturation of that design.

The development of the THAAD BM/C3I subsystem involved the integration of computer systems, tactical communications systems, shelters, environmental control systems and software into a single system capable of integrating radars, launchers, and missiles distributed over a battlefield. In order to operate on a battlefield where other air defense and other tactical systems (joint and allied) are located the THAAD BM/C3I system had to seamlessly interoperate with these systems.

#### SPARTA, Huntsville, AL

Systems Analyst with SPARTA (1985 – 1989). Responsible for determining the performance capabilities of the Air Force Maui Optical Station (AMOS) and its likelihood of achieving a passive sensor to passive sensor handover. The AMOS facility was a participant in the Experimental Network Surveillance System (ENSS) for the Surveillance, Acquisition and Track (SAT) Integrated Experiment (SIE). Responsible for determining the data requirements and data rates for communication of the AMOS facility with the SIE Control Center (SCC) which upon complete of the ENSS would have command and control authority of all sensor participating in the experiment.

Developed real time algorithms for the Strategic Systems Command's EV88 program. The EV88 program involved the development of an experimental version of a midcourse Battle Management/Command Control and Communications (BM/C<sup>3</sup>) system.

SETAC, Inc., Ft. Walton Beach, FL.

Systems Engineer (1984 – 1985) that participated as a member of the Navy's Technical Team for the Charleston TACTS. Supported the effort to establish the requirements of the system which, in turn, led to the definition of future TACTS systems. The lead system analyst responsible for conducting an analysis of the mission survivability of the Landing Craft Air Cushion.

TYBRIN, Corporation, Ft. Walton Beach, FL

Senior Engineer (1983 – 1984) performing safety analysis for live fire missile testing over the Eglin AFB test range and the Gulf of Mexico test range. Conducted a risk analysis of the testing of the terrain-following guidance system of the Cruise Missile over northwest Florida and south Alabama. He was responsible for developing the least hazardous flight profile for testing the terrain-following guidance system. Modified NADC's simulation of the AIM-9L, AIM-9P, and AIM-7F to reflect the behavior of the missiles after the point of closest approach or the occurrence of a failure. Reviewed flight test data in order to determine failures and causes of failures, as well as the effects of the failures on the terminal trajectories of the missiles. The purpose of the program modifications was to determine the distributions of the ground impacts.

ARMAMENT SYSTEMS, Inc., Ft. Walton Beach, FL

Senior Programmer/Mathematician (1978 – 1983). Modified the VAREA hardened targets vulnerability program for performing a quick vulnerability analysis of hardened targets. Used the SHOTGEN computer program to generate straight-line weapon trajectories. Participated in a parametric analysis of conceptual air-to-surface missile warheads against space targets using the REFMOD air-to-air end game simulation. Modified the REFMOD end game to realistically represent the relative geometry of a space encounter. Developed and documented the air-to-surface gun program CATSGUP. This was the Air Force Standard air-to-surface gunnery evaluation program used primarily for the A-10 Gatling Gun. Modified the Weapons System Analysis Program (P1279) to include firing table output for guns and rockets. Developed and documented the hardened structures vulnerability model, VULMOD. Program VULMOD is used to determine the vulnerability of hardened structures to conventional weapons. The program uses input generated

by the Terra Dynamic Equations of Motion (TDEM) program, which simulates the trajectories of munitions as they penetrate soil and concrete overburdens. Developed and documented the Marine Corps Combat Analysis Model (MCAM) for the Analysis and Intelligence office of the Naval Coastal Systems Center (NCSC). The MCAM simulation program was developed to allow NCSC personnel to evaluate the synergistic effects of minefields and mine countermeasures on the force structure of a Marine amphibious assault. The program simulates the effects of direct fire, indirect fire and air-to-ground weapons delivery through statistical methods.

#### U.S. AIR FORCE ARMAMENT TEST LABORATORY (AFATL)

Cooperative Education Student (1975 – 1978) seven quarters. Participated in studies of the survivability of aircraft in a hostile anti-aircraft environment. Performed a comparative study of A-7, A-10, F-4, F-15 and F-16 air-to-ground weapon delivery profiles of GAU-8, ROCKEYE, and MAVERICK. Participated in the development of the early SAM simulations used by AFATL. These simulations were focused on the SA-2, SA-6 and SA-8.

#### PUBLICATIONS

1. Utility of MBSE Environments for Rocket Engine Development - Exemplified on application of AM based Alloys,” Lakshmipuram Raghu, S., Thomas, L. D., Williams, J., *Wiley System Engineering Journal*, 2026
2. “Performing Verification and Validation Activities in a Mode-Based Environment”, Rebecca Mulhollands, Cameron Bently, and Jeffery Williams, INCOSE International Symposium July 2025
3. “First Steps in the Development of a Program Organizational Architectural Framework (POAF),” Jeffery L. Williams and Jerrell T. Stracener, Systems Engineering © 2012 Wiley Publications.
4. “First Steps in the Development of an Architecture Framework for a Product Development Process”, Jeffery L. Williams and Jerrell T. Stracener, National Defense Industrial Association (NDIA), 13th Annual Systems Engineering Conference
5. “A Feasible Program Organizational Architecture Framework”, Adel Albawi, Jerrell T. Stracener, Jeffery L. Williams, *International Journal of Engineering Technology*
6. “Decision-making in the Program Organization Architecture Framework-Owner View (POAF-OV)”, Adel Albawi, Jerrell T. Stracener, Jeffery L. Williams, Systems Conference (SysCon) 2016 Annual IEEE
7. “A Conceptual Methodology to Create a Feasible and Effective Program Organizational Design” Adel Albawi, Jerrell T. Stracener, Jeffery L. Williams, American Society for Engineering Management (ASEM)