Authorized to work for any employer without sponsorship in the following countries: United States, Australia, New Zealand, and under USMCA Canada

303-444-2326
career@adamsplanet.com

ADAM THODEY

www.linkedin.com/in/adamt

716 Sunrise Drive
Lyons, Colorado 80540

The Structures Company ● 01/2022 – Present

Contracted to Aurora Flight Sciences Cambridge, Massachusetts, Remote ● 01/2022 – Present

Projects:

- X66-Sustainable Flight Demonstrator using Transonic Truss-Braced Wing (TTBW) technology 01/2022 to Present
- Virgin Galactic Mothership 10/2022 – 01/2023

Staff Systems Engineer

- Bringing systems engineering knowledge and experience
  - elicit stakeholder needs and requirements to generate and manage the System Requirements and its segment requirements.
- Maturation of the Concept of Operations
- Understanding and designing changes to the Caution and Warning System
- Agile methodologies coaching
- Scrum Master
- Responsible for updating the Systems Engineering Management Plan
- Using Model-based systems engineering through the design process
- Environmental requirements management to the RTCA/DO-160G specification

General Atomics – Electromagnetic Systems, Centennial, Colorado ● 10/2020 – 01/2022

Engineer VI, Mission Operations Systems Engineer, OTB-2 MAIA Mission Operations Lead

- Responsible for and writing the GA-300 satellite bus User's Manual
- Complete Mission Operations and Ground System Design through CDR
- Lead development of the Ground System updates
- Develop Concept of Operations (ConOps), Mission Operations Plans and Procedures
- Develop the OTB-2 Ground Station Services Provider SOW and work with KSAT
- Learn RF communications subsystem
- Lead effort to meet uplink requirements, including understanding how to modify the FCC licence if required, and updates to the ConOps whether the decision is to modify uplink speed or change operations requirements.
- Work with Ground Software on understanding software and implementing the design
- Develop the LEOP and Spacecraft Commissioning Plan working with each spacecraft subsystem
- Work with the OTB-2 Bus Simulator team on ground system and client user operations needs
- Work with Systems Engineering on requirements and system wide needs that affect mission operations
- Plan and implement for commonality in the Multi-Mission Ground System Architecture
- Work with Systems Engineering and update the Verification and Validation Plan for the Program

ATR International ● 04/2020 – 10/2020 Contractor to Maxar

Solutions Systems Engineer – Direct Access Program for the Direct Access Ground System

- Responsible for Model Based Systems Engineering for defining system requirements and SYSML diagrams
- Write Software Description Specification Documents
- Apply technical knowledge to better engineer the ground system
- Communicate and liaise with subject matter expert staff to understand the system and resolve issues.

SIERRA NEVADA CORPORATION, Louisville, Colorado ● 03/2017 – 09/2019

AEROTEK, 11/2016 – 03/2017

Senior Systems Engineer, Dream Chaser® Spacecraft

- Responsible for Requirement Ownership – including writing/updating requirement text, working with NASA on test plans and joint test plans and exceptions, updating System Level down to subsystem level requirements documents
  - Work with Avionics, Software and Communications Subsystem leads on meeting design requirements
  - Work with GN&C on software timing for their algorithms
- Channelization Lead – ensure all components are connected within constraints, and documented
  - Using MATLAB, generates the system channelization and connectivity data used by the program
  - Refactored code to reduce run time from 20+ minutes to 1 minute 40 seconds
  - Added error checking to ensure component and system constraints are met
  - Implemented process to reduce time to check proposed changes, and allow approved changes while database is locked for other product updates and releases.
- Maintain the System Handbook on how the system works and connected, including automating component connectivity diagrams
- Avionics, Communications and Software Systems Engineer Liaison.
- Verification Closure Planning

- Provide Agile methodology support
- Evaluate Model Based Systems Engineering Programs

EMERGENT SPACE TECHNOLOGIES, INC., Littleton, Colorado ● 09/2015 – 10/2016

Senior Aerospace Engineer, Orion Spacecraft Timeline and Vehicle Management Scrum Team Embedded Tester

- Understand Timeline and Vehicle Management component and entire software set up for the multi-purpose crew vehicle
- Write success criteria for component level requirements
- Write test scripts in python to pass at the component level and execute on software test bed.
- Work with system level tester to update and execute test on system level test bench.
- Help test colleagues with test writing – GNC, Power Systems, system tests

  * Orion is now known as Artemis

RAYTHEON INTELLIGENCE, INFORMATION AND SERVICES, Aurora, Colorado ● 12/2012 – 09/2015

Ground Systems Engineer / Integration & Test Engineer / Scrum Master – JPSS Common Ground System (CGS)

- Block 2.0 Integration and Test Team (System Level)
  - Integration of Offline portion of the System – Command Loads, Orbit Operations, Mission Planning
  - Understanding interfaces by writing tests for Common Services of the system to verify that they work when delivered from software.
  - By fully understanding the space system, driving requirement pass/fail criteria to be ready for Test Procedure inclusion
  - ScrumMaster
    - Facilitate Sprint Planning, Daily Scrum, Roadblock removal
    - Work with Product owners on Epic Planning, backlog refinement, story writing, and prioritization
    - Help team be more agile through inspect and adapt, leading ceremonies, and coaching
    - Provide Agile Coaching to the Product Owners to better understand their roles and how to be more effective at their jobs.
  - Worked with System Engineers to clarify interfaces and requirements
    - Document interfaces with diagrams.
- Block 2.0 Site Acceptance Team
  - Write Test Procedures to sign off Requirements for Mission Planning and Orbital Operations
  - Train team on DOORS usage and exports
  - Help team members with program tools and test writing.
- Block 2.0 Operational Based Site Acceptance Team - Mission Planning and Orbit Operations
  - Understanding mission planning and orbital operations, including maneuvers of the spacecraft
  - Write Test Procedures to support our operational based test to verify requirements

DATA DIPLOMAT LLC, Denver, Colorado ● 2011-2012 ● Sales Manager & Accounting, Data-Driven Marketing Solutions

- Promoted business through networking, cold calls and warm calls. Managed budget; prepared proposals; and processed accounts payable / receivable
- Installed WordPress and Joomla for website build clients and served as technical back end in installation and troubleshooting issues.

PURPLE AVOCADO CATERING, Denver, Colorado ● 2004 - 2010 ● President, Corporate Catering & Social Events

- **Accomplishment:** Increased sales at least 50% per year since 2005, and increased revenue from $100K in 2006 to equivalent of $750K in 2010 when catering business was sold.
- **Accomplishment:** Received the CO-LGBTQ Chamber of Commerce Entrepreneurial Man of the Year Award.
- Promoted business through networking, opportunity calls. Managed budget; prepared proposals; and processed accounts payable / receivable.
- Managed and directed all sales, operations, and financial functions of corporate and special event catering business. Assisted sales staff in developing individual sales plans; collaborated with kitchen personnel to reduce costs and increase safety; and managed all accounting / budget functions.
- Managed Vendor Relations and all accounting functions.
- Implemented a Kanban approach to sales.

BALL AEROSPACE AND TECHNOLOGIES CORPORATION, Boulder, Colorado ● 10/2003 - 05/2006

Ground Systems Engineer / Mission Support Area Developer - Deep Impact Project
Ground Systems Engineer / Cmd & Tlm Database Manager - Kepler Project

- Facilities planning and implementation without supervision: assemble mission support area that included communications, computers, and count-down/count-up mission clock.
- Supported Program and Test Engineers in clean room and other test facilities; collaborated with software developers in resolving problems and updating database; and supported launch activities.
- As database manager, worked with development team to create test benches, also designated for use on flight, for *Kepler*. Database testing and testing of and on test benches, provided useful results in helping scope out the telemetry

and command requirements for the project.
- Created ground system databases in preparation for flight operations by installing updates on facility's test benches and providing same ground system database for use by JPL.
- Provided OASIS-CC ground system support on *Kepler* project, interfacing with QA to create each ground system database and provide them in a timely manner to test benches, racks, and other required users.
- Helped Ground Support Equipment Electrical Engineer with test rack design on Kepler.
- Furnished updates to telemetry and command databases from flight software updates and errors encountered in tests.
- **RECOGNITION:** Recipient, NASA Group Achievement Award for Kepler Launch and Commissioning Team
- **RECOGNITION:** Awarded NASA's Deep Impact Public Service Group Achievement Award for ensuring Mission Support Area was created and prepared for launch and on-orbit operations. Efforts ensured synchronization of ground system, proper operation and availability of telecommunication lines, and timely and rapid resolution of support issues

LOCKHEED MARTIN, Gaithersburg, Maryland ● 10/1998 - 10/2003

Hardware Engineer - Hubble Space Telescope (HST), Science Instrument Test Systems (SITS)
- **ACCOMPLISHMENT:** Successfully relocated computers, hardware, and transferred responsibility from Hubble Space Telescope SITS facilities in CO, MD & GSFC to NOAA
- **ACCOMPLISHMENT:** Avoided potential and significant damage by testing software values against hardware register values and identifying software error in Normal Engineering Data Component that would probably have gone undetected until testing against real flight
- Collaborated with clients and field support engineers to determine reasons for issues and a current work around until resolutions could be developed or features added.
- Wrote and executed Release Regression tests to ensure stability and efficacy of systems upon release.
- Participated in troubleshooting issues; developed and implemented solutions; and unit and function tested "fixes" to ensure correct implementation.
- Managed rewriting of users' manual, from concept and design, to print and updates for each release.
- Created and implemented timeline/schedule to facilitate team members' efforts in completing concurrent assignments.
- Monitored use and location of government and company-furnished equipment and updated/maintained property location database.
- Interfaced with Quality Assurance to ensure adherence to appropriate processes and procedures.
- Developed test template used by Flight Software program, testing algorithms and ensuring adherence to all written and other functional requirements not listed for hardware and/or software.
- Key player in system maintenance and enhancement activities.
- Served as the HST Wide-Field Camera 3 database manager, developing telemetry and command tables and operations definitions, assigning individual bits for specific telemetry required in the downlink for ground system display and later analysis, and defining commands for use in the science instrument.
- Generated, prepared and led effort to write Technical Reference Manual and lab documentation.
- Developed tools to track equipment, program trouble reports, test procedures and project issues
- Presumed ground systems integration role for test system
- Collaborated with customers on minimal interference basis to establish requirements and successfully design, code and test MS Access version of Ground System Release Integration Plan
- Refined Asset Management Database, enabling NASA client to fully understand location of all assets
- Performed acceptance tests for test system releases and worked with QA on each release.
- Member of two-member team charged with ensuring Control Center System operated properly at Goddard Space Flight Center. Installed updates to various test facilities, and assisted users in identifying and resolving issues.
- Identified excess equipment in three locations in U.S. and transferred old and obsolete equipment to another government entity.
- Created Software Test Template for Hubble Space Telescope Science Instrument Software Test Team at Ball Aerospace.
- Recognized as the interface for Science Instrument Test System (SITS) facility planning by both Lockheed and Goddard Space Flight Center.
- Coordinated major update to the Science Instrument Test System (SITS) User's Manual and design specification documents.

DEFENCE SCIENCE AND TECHNOLOGY ORGANISATION, Elizabeth, South Australia ● 06/1997 – 08/1997

GIS & Remote Sensing Internship
- Embedded ATREM code, developed at Univ of Colorado, into ENVI to calculate true ground reflectance in multi-spectral images obtained by the DSTO to then analyze resulting image for target detection

SPACE PHYSICS RESEARCH LAB, University of Michigan, Ann Arbor, Michigan ● 1997 – 1998
- Advanced development and research for the TIMED Doppler Interferometer

COLLEGE OF ENGINEERING, University of Michigan, Ann Arbor, Michigan ● 1994 – 1998

- First year engineering programming Class Assistant to the TA, Grader and computer lab resource 1994-1997
- Wrote chapter on HTML used in the first-year programming class
- Teaching Assistant for the C/Matlab program class for first years, 1997-1998

PROJECTS

Pluto System Orbital and Kuiper Belt explorer Mission Concept Study, Volunteer Systems Engineer, SwRI, 12/2019 – 06/2020

Paper, manuscript 2020JE006563, *Mars' Blue (400-450 nm) Seasonal Approximate Reflectivity Averaged Over Mars Years 24-28 from Mars Orbiter Camera Mar's seasonal approximate reflectivity* with Dr Stuart Robbins submitted for publication to Journal of Geophysical Research - Planets, 06/2020

EDUCATION

Colorado State University – Fort Collins
Master of Science Systems Engineering – Expected Spring 2024
Certificate Systems Engineering Spring 2019

University of Michigan – Ann Arbor
Master of Engineering - Space Systems
Master of Engineering - Applied Remote Sensing and Geographic Information Systems
Bachelor of Science - Aerospace Engineering
Study Abroad, Monash University, Clayton (Melbourne), Victoria, Australia

Edison/Computech High School – Fresno, California – High School Diploma

CERTIFICATIONS AND LICENSES

Certified Scrum Product Owner 2014- 2022, Scrum Alliance
Certified ScrumMaster 2014-2022, Scrum Alliance
Amateur Radio License, Novice 1985 – Present
Raytheon Six Sigma Certified, 2013-2015

COMPUTER SKILLS

Ground Systems
JPSS Common Ground System from Raytheon ● OASIS-CC from CU LASP
AMMOS from JPL ● Control Center System for Hubble Space Telescope
SSTL UK Ground System Software

Engineering and Agile Applications
DOORS ● Visio ● IBM's Rational Functional Tester ► Rational Quality Manager ► Rational Rhapsody
Sparx Systems Enterprise Architect ● Dassault Systemes Cameo Systems Modeler
Atlassian JIRA ► Confluence ► Crucible ► JIRA Align ● Code Collaborator ● Perforce
AGI Systems Tool Kit, Level 1 Certified

Digital Image Processing
ArcView ● ArcInfo ● IDRISI ● NIH Image ● ER Mapper ● TNT ● TransCAD ● Desktop Mapping System

CAD and Laboratory Software
LabTech Notebook ● SDRC I-DEAS Master Series

Programming Languages
Python ● C ● FORTRAN ● MATLAB ● TCL ● HTML ● CSS ● Unix Shell Scripting
Beginner: Java ● Javascript ● PHP ● C++ ● R and RStudio

Business, Accounting and Other Applications
MS Office ● WordPerfect ● OpenOffice ● FrameMaker ● PageMaker
Intuit QuickBooks ● Peachtree Account ● ABECAS by Argos Software

PROFESSIONAL AFFILIATIONS / PRESENTATIONS

The American Institute of Aeronautics and Astronautics (AIAA) ● Society of Automotive Engineers (SAE)

International Council on Systems Engineering ● Agile Denver (Monthly Meeting Support Committee 2014-2017)

Roger B Chaffee Scholarship Fund Award Dinner featured Guest Speaker, 2005
Roger B Chaffee Planetarium, Van Andel Museum, Grand Rapids, Guest Lecturer, 2005

CONFERENCES ATTENDED / CLASSES AND WEBINARS

Agile Portfolio Management Course, Agile University, April 2015
Mile High Agile Conference, Denver, CO 2014-2016 (Planning Committee for 2016)
AIAA Webinar: Flight Dynamics and Einstein's Covariance Principle Nov 2012

AIAA Technical Symposium, Rocky Mountain Chapter 2012-2019, 2021-2023
AIAA ICES Conference, San Diego, CA July 2012
Summer Science Program Participant, NSF Young Scholar 1991

OTHER ACCOMPLISHMENTS

2020 IGLA Masters Swimming Championships, Melbourne, Australia

Silver Medal – 5000m Open Water Swimming

Bronze Medal – 1500m Freestyle

KEYWORDS

Systems Engineer ● Requirements ● Interfaces ● Interactions ● Risk Analysis ● Project Management
Integration and Test ● Scripts ● Automation ● Regression Testing ● Hardware Testing ● Requirements Testing
Launch / Operations Support ● Command and Data Handling ● Technical Writing
Agile Development ● Scrum ● Kanban ● ScrumMaster ● Agile Portfolio Management
Strategic Planning ● Team Leadership / Motivation Process Improvement ● Expense Control
Internal Controls ● Budgeting ● Resource / Schedule Management ● Business Development / Sales
Employee Management ● Manager
Programming and Scripting ● Python ● TCL ● C ● FORTRAN ● MATLAB ● R
Start Ups / Turnarounds ● Event Planning ● Vendor Relations

NOTES

Disciplined, focused, and detail-oriented, experienced in supporting all project phases. Possess strong understanding of space systems and satellites and experience in developing creative solutions. Particularly skilled at understanding the system and coming up with solutions.