Alan E. Bell

2624 S Kings Rd
Virginia Beach, VA 23452

alan@bellcllc.com
Linkedin Profile
Cell: 757-416-4594

SUMMARY

Over 30 years of experience as an aviation professional, with qualifications as a pilot, remote pilot, air traffic controller, and instructor. Unparalleled qualifications as a systems and safety engineer, leading teams supporting research and analysis for the Federal Aviation Administration, NASA, the Defense Department, and various private firms.

- Aviation safety and risk management
- Data analysis & metric development
- Cross-functional team management
- Model-Based Systems Engineering
- Stakeholder collaboration & communication
- Manned & unmanned aircraft operations

EDUCATION

Doctor of Philosophy, Engineering Management, Old Dominion University, 2014

Master of Systems Engineering, University of Virginia, 2012

Graduate Certificate, Management Science, Stanford University, 2011

Bachelor of Science, Engineering, US Air Force Academy, 1989

CERTIFICATIONS/QUALIFICATIONS

FAA Part 107 Remote Pilot Certificate, 2021

FAA Certified Flight Instructor (CFI/MEI/II), 2013

PMI Certified Project Management Professional (PMP), 2010

FAA ATO SRM Panel Facilitator, 2010

FAA Airline Transport Pilot Rating (ATP), 2009

   Glider rating and tailwheel endorsement, 2019

PADI & SSI Certified Open Water Scuba Instructor, 2002

Federal Firearms License, 2023

Owner/operator of small drones used for personal video & photography since 2016

PROFESSIONAL EXPERIENCE

Managing Partner   January 2018 – Present

Bell Consultants, LLC

> Providing Model-Based Systems Engineering and data analytic support to US Navy, NASA, and FAA clients, specializing in quantitative methods for risk management & risk-based decision-making. Substantial experience and expertise providing data analysis for standards development and performance metrics for systems and services supporting manned and unmanned flight operations.

Adjunct Professor   August 2019 – December 2022

Old Dominion University, Norfolk, VA

- Teaching Engineering Management 660 (masters level), *System Architectures and Models*.
- Co-Teaching Engineering Management 760 (masters/PhD level), *Advanced Architectures & Tools*.

Senior Research Engineer   September 2010 – April 2022

Systems Enginuity, Inc. (SEI), Washington, DC

> 11+ years providing FAA systems engineering support for air traffic management systems during all phases of the Acquisition Management System lifecycle. Author of multiple safety risk management

documents, shortfall analyses, and white papers. Contributor to numerous functional analyses, Enterprise Architecture viewpoints, Concept of Operations, requirements, and safety assessments.

- Co-developer of Hazard Enterprise Architecture Traceability (HEAT) tool, a mobile application providing data insights for safety risk management and risk-based decision-making.
- Co-developer and maintainer of the NextGen *NAS Safety Model*, an architecture of the National Airspace System used to quantify aviation safety risk.
    - Developed with Sparx Enterprise Architect and featuring SysML-compliant block definition, activity, and internal block diagrams
    - Augmented with influence diagrams, risk frameworks, and safety data to support accident rate estimates in response to functional changes in the architecture
- Developer of the MIRROR approach for deriving models from architectures, quantifying risk, collaborating with stakeholders, and informing risk-based decisions
- Lead engineer for development of Risk-Based Decision-Making Standard Operating Procedure and engineering training syllabus for FAA Surveillance Services (AJM-4).
- Core member of ANG Safety Peer Review Team, ensuring program level SRM document compliance with ATO SMS Manual and SRMGSA policy guidance.
- Safety Engineer for NASA Management by Trajectory initiative, developing collision risk models and documenting safety and performance metrics for advanced air traffic management concepts.
- Facilitator for multiple Safety Risk Management Panels and primary author of numerous safety documents in support of various FAA programs.

Senior Systems Engineer   September 2009 – September 2010
BAE Systems, Washington, DC

- Aviation safety and systems engineering supporting FAA acquisition programs.
- FAA Capital Investment Planner, preparing a published report for Congress outlining the strategy for allocation of a $3B Facility & Equipment budget based on Enterprise Architecture roadmaps.

Naval Officer, Combat Pilot, Air Traffic Controller   June 1989 – September 2009
Various locations worldwide

- Top Secret Clearance with Sensitive Compartmented Information (TS/SCI). 4,000 flight hours as a carrier-based pilot in S-3B, T-45A/C and F/A-18C/D aircraft, including 1,145 carrier landings and 86 combat missions in support of Operations Southern Watch, Enduring Freedom, and other operational deployments.
- 15 years of experience as a carrier-based air traffic controller, culminating as a Commander and Officer-in-Charge of the world's most advanced training facility for carrier-based air traffic control tower personnel and landing signals officers.

SELECT PUBLICATIONS

Bell, A, Lange, S. *Virtual Drone Management*, The Journal of Air Traffic Control, Volume 65, No. 2, Summer 2023.

Bell, A. Guest Commentary. *COVID-19 testing numbers require context, understanding*, The Virginia Pilot, Virginia Beach, VA, April 26, 2020.

Handley, H., Bell, A. *Applying Human Viewpoints to Risk-Based Decision-Making*, Human Viewpoints for System Architectures, ISBN 978-3-030-11628-6, © 2019.

Bell, A, French S., *Frameworks for Enterprise Level Risk-Based Decision-Making*, Federal Aviation Administration, NAS Systems Engineering and Integration Office, Washington, DC, June 30, 2018.

Bell, A., Gheorghe, A., *Time-Based Collision Risk Models for Air Traffic Management Systems*, International Journal of System of Systems Engineering, Vol. 5, No.4, 2014, pp. 324-378.