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EDUCATION

~2009 PhD Systems Engineering/Operations Research, George Mason University, Fairfax, VA.
2000 M.S. Operations Research, Naval Postgraduate School, Monterey, CA.
1987 B.S. Systems Engineering, United States Naval Academy.

PRESENT POSITION

Project Manager, Mason JIEDDO Support Team

QUALIFICATIONS

- Eight years experience as operations research analyst in diverse application areas: Counter-IED, Naval Facilities, Combat Identification, Marine Corps Aviation Requirements Analyses, Amphibious Operations Modeling, Combat Assessment in Operation Iraqi Freedom, Command and Control, Defense Acquisition and Cost-Effectiveness Analyses, and Operational Logistics studies and tool development.
- Twenty years as Marine Corps officer; leadership experience in Technical, Training, Operational, Special Operations, and Combat environments.
- Certified acquisition professional in Systems Engineering DAWIA Level III; TOP SECRET clearance.
- Proficiencies: mathematical programming, modeling and simulation, agent-based models, combat models, decision analysis, cost-benefit analysis, survey methods, stochastic processes, portfolio analysis.
- Skilled MS Office user plus quantitative tools: SPSS, Extend, CPLEX/MPL, MATLAB, etc.
- Combat modeling exposure: CASTFOREM, VIC, COMBAT XXI, EADTB.
- Polished written and presentation skills; fluent and literate in Spanish.
- Experienced instructor in both academic and training arenas: 5 years adjunct faculty for Park University teaching lower division calculus and discrete mathematics; 3 years experience in recruit training; 3 years in maritime special operations.

EXPERIENCE

Nov 2007 to Present ***Program Manager, Mason JIEDDO Support Team***
C4I Center, George Mason University

- Manages research task supporting Joint Improvised Explosive Defeat Organization. Research team consists of seven PhDs from George Mason, Howard, and Columbia Universities, plus seven graduate and undergraduate research assistants.

- Mason Team researching statistical and causal models of IED phenomena in order to understand the IED problem and facilitate defeat of the IED as a weapon of strategic influence.

Mar 2007 to Present ***Principal Operations Research Analyst, Northern VA Operations, Concurrent Technologies Corporation (Part-time Consultant)***

- Lead analyst for the Materials Positioning Model under development for Naval Supply Command, Norfolk VA. Developed a decision analytic-based index to prioritize parts for pre-positioning in theater.
- Lead analyst, Base Support Vehicles & Equipment Management Study, Naval Installations Command. Devised decision analytic approach optimizing fuel activities across the naval installation enterprise.
- Combat Development and Integration Analyst, 202K Force Structure Growth Support Study. Developing the key data and modeling approaches for a math programming approach to scheduling five year plan.

July 2004 to Feb 2007 ***Operations Research Analyst, Economic and Business Analysis Team, Marine Corps System Command, Quantico, VA***

- Competency Leader for cost-benefit and cost-effectiveness analyses. Involved in every Analysis of Alternatives, played a driving role in the Analyses of Alternatives (AoA) for the following investment programs: 3-D Expeditionary Long Range Randar (~$700M at risk), Expeditionary Command and Control Suite ($120M), and Infantry Automatic Weapon ($30M).
- Led the Marine Corps Science &Technology Transition Process Quick Study, drawing on systems engineering methods to revitalize a critical process that was rapidly becoming obsolete.
- Lead Survey analyst for the Marine Corps Systems Command Strategic Business Team Assessment, consisting of a multi-phase, cross-section program evaluation using interviews, electronic survey/census of senior leadership, and complex data-analysis to provide far reaching findings and recommendations.

Oct 2000 to July 2004 ***Operations Research Analyst, Studies and Analysis Division, Marine Corps Combat Development Command, Quantico, Virginia***

- Represented Marine Corps in multi-service analysis of fratricide incidents. Provided critical insight and leadership in review of factual evidence with small samples and the politically charged environment.
- Performed variety of independent research projects in support of Marine Corps Mission Area Analyses, while supporting development of COMBAT XXI, an Army-Marine Corps combat model.
- Led three-analyst team providing modeling and simulation support to Marine Forces Central Command during initial months of Operation IRAQI FREEDOM. Culminating effort was a feasibility analysis of the 17-ship amphibious backload plan for over 10,000 personnel and 500 plus vehicles. With only a week available, developed a stochastic simulation via commercial modeling software (Extend) with validated subject matter expert inputs of the entire backload plan. Successful briefing to sponsor and stakeholders confirmed feasibility of plan while identifying previously unknown areas of risk.
- Led three-analyst team in performing zero-based requirements analysis of Marine Corps Operational Support Airlift. Authored influential report resulting in reorganization of approximately $100M of aircraft, improved concept of employment, more responsive capability, and full regulatory compliance.

- Study director for government-industry AoA study team for the Unmanned Ground Vehicle Capability. This M&S based study highlighted the effectiveness of this emergent capability.
- Lead Survey analyst for influential study on Marine Corps Officer Professional Military Education. Analysis effort involved the largest electronic survey for the Marine Corps at that time, with a sampling frame of 13,000. Study provided critical insights on trades within the educational portfolio.

June 1998 to Sept 2000 ***Student, Operations Analysis Division,***
Naval Postgraduate School, Monterey, California

- For thesis, conducted research into Complex Adaptive Systems and Agent-based Modeling as a means to model irregular warfare. Wrote Java libraries to allow users to develop their own agent-based simulations in conjunction with SIMKIT, a Java event-step simulation environment. Used these to simulate non-lethal peacekeeping scenario and conduct Design of Experiments test of alternative Rules of Engagement. Finalist for Military Operations Research Society Tisdale Award for best thesis.

June 1987 to May 1998 ***Infantry and Reconnaissance Unit Leader***
All Three Active Marine Divisions

- Commanding officer of the 200-man Reconnaissance Company, 1st Marine Division. Provided highly trained and much lauded recon platoons to deploying Marine Expeditionary Units.
- Assistant Operations officer for 1200-strong amphibious unit operating in the Middle East. Very successful planner of complex ship-to-shore offloads/backloads with small margin for error.
- Excelled as unit commander in demanding recruit training environment. Led 20 Drill Instructors and 200+ recruits. Doubled annual rehabilitation rates of injured trainees.
- Led reconnaissance platoons in Operation DESERT STORM and deployed counter-terrorism unit.

RESEARCH INTEREST

- Military Operations Research, in particular Combat Modeling of Asymmetric Warfare
- Combinatorial Optimization
- Military Capital Budgeting
- Cost-Benefit Analysis
- Decision Science

PROFESSIONAL ACTIVITIES

- Military Operations Research Society
- Institute for Operations Research and the Management Sciences
- Marine Corps Association
- U.S. Naval Institute

PUBLICATIONS

"Hazing Vs. Leadership", **Marine Corps Gazette**, Jun 1998, v. 82, no. 6, p. 49-50.

"Artillery, Tanks, and LAVs, Oh My! Another MEU Viewpoint." **Marine Corps Gazette**, Jul 1998, v. 82, no. 7, p. 40-41.

"Agent-Based Simulation of Military Operations Other Than War Small Unit Combat", Master's thesis, Naval Postgraduate School, 2000.

"Value of Resident PME: Results and Recommendations from 2001 PME Study." With Robert M. Liebe. **Marine Corps Gazette**, Jul 2002, v. 86, no. 7, p. 30-33.

PRESENTATIONS

"Agent-Based Simulation of Military Operations Other Than War Small Unit Combat", MORS-Tisdale Award Finalist, Naval Postgraduate School, Monterey, CA, September 2000.

"Agent-Based Simulation of Military Operations Other Than War Small Unit Combat", Military Operations Research Society Education Colloquium, Ft. Belvoir, March 2001.

"Analytical Support to MARCENT during Operation IRAQI FREEDON", 72nd Military Operations Research Society Symposium, U.S. Military Academy, June 2004.

"Analytical Support to MARCENT during Operation IRAQI FREEDON", Army Operations Research Symposium, Ft. Lee, VA, October, 2004.

"Analytical Support to MARCENT during Operation IRAQI FREEDON", Composite Group Briefing, 74th Military Operations Research Society Symposium, U.S. Air Force Academy, June 2006.

"Capital Budgeting, Partial Buys, Alternative Utility: Keys to a Better POM?", 74th Military Operations Research Society Symposium, U.S. Air Force Academy, June 2006.

"Strategic Business Team Assessment", with Todd Calhoun, 74th Military Operations Research Society Symposium, U.S. Air Force Academy, June 2006.

"Cost Risk Analysis of Satellite Bandwidth Services", with S. Bresnahan, 2007 Joint ISPA/SCEA International Conference, New Orleans, LA, June 2007.