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## Education

2005	Ph.D.	University of Virginia in Systems and Information Engineering Dissertation Adviser: Professor Donald Brown
2008	M.SS	Army War College in Strategic Studies
1997	M.Sc	Kansas State University in Operations Research
1986	B.Sc	United States Military Academy in Mathematics of Operations Research

## Professional Consulting Positions

2011 - *Senior Operations Researcher*, RAND Corporation

Policy analysis to numerous clients across RAND's various research areas using operations research, systems and information engineering, and strategic studies. The advantage of RAND's research and development is created by high quality and objectivity. We are a non-profit organization, supported by global clientele, which includes government agencies, foundations, and private sector firms. We also leverage our endowment and generous philanthropic contributions to invest in high quality people and capabilities.

2010 - 2011 *Founder and President*, Go Predictive Analytics, LLC

Go Predictive Analytics, LLC is a leading consulting company that provides expert services for predictive analytics, data mining, systems engineering, and operations research. We have assisted progressive companies and government organizations in leveraging their data to obtain larger returns on their investment and solving complex problems. Go Predictive Analytics, LLC empowers organizations to make valuable decisions by applying our advanced analytic techniques and consulting expertise. We demystify data mining, which looms large as a barrier to many organizations. We are a veteran owned consulting business with expertise in data mining, predictive analytics, systems thinking, systems science, systems decision-making, and operations research. We are currently designing the predictive technology for scheduling the clearing of unexploded ordinance and improved explosive devices in countries with no US presence. We are also using predictive technologies to design a foreign currency signal, to be purchased and published on the web for investors.

## Professional Leadership Appointments

2008 - 2011      *Executive Director*, Training and Education Analysis and Evaluation Directorate, United States Army Training and Doctrine Command

Strategic leader and chief advisor to the Chief Operations Officer, Vice President, and President of the Army's Education, Training, and Research University, which educates and trains 100,000 students daily across seventeen colleges throughout the United States and other locations abroad. Provides operations research and systems engineering advice and solutions to large scale problems and systems within the organization. Advocates, designs, promote, analyze and budgets training and education programs for initial military training, professional military education, and special military training and education across four resource domains: personnel, financial, infrastructure, and materials. Utilizes operations research and systems engineering to create future education and training concepts or processes, which are integrated in the organization's strategic plan. Uses operations research and systems engineering to evaluate current processes.

- ◆ As the senior operations research analyst for the organization, I led the research of seven major projects over three years while obtaining \$1.5 million research funds from Special Operations Command:
  - Served as the principle researcher and research leader that designed and implemented a 2,000 military personnel reduction within a vast and diverse organization without degrading core competencies, saving the army approximately \$160 million.
  - Served as the research leader of a diverse analytical team, which included operations research analysts and budget managers, to create a functional training portfolio review system using systems design and decision-making techniques that saved the army between \$6 and \$10 million.
  - Served as the research leader that used systems design and decision-making techniques to create a top down functional review to potentially save the army between \$250 and \$500 million.
  - Obtained \$1.5 million from Special Operations Command to organized and direct a research team into Afghanistan for General Patraeus to study the reduction of civilian casualties. The team was diverse and included Harvard University researchers, former Special Forces leaders, and operations research analyst.
  - Served as the principle researcher to develop the intellectual underpinnings for the army's new concept of learning utilizing techniques and procedures derived from systems design.
  - Served as the research leader, while using systems design, to create best business practices for the organization's corporate headquarters, which included cloud computing, optimizing both home based and outsourced office space based mixes within the work force, diverging from older business models that compelled the work force location at a central location.
  - Served as the research leader to design and build a system simulation capability for the organization's Chief Operating Officer, Vice President, and President.
- ◆ Managed a budget in excess of \$500 million.
- ◆ Increased a customer satisfaction rating from 95%, to 97%, to 98%.

- ◆ Significantly contributing as a member of a senior leadership team that is redesigning the entire training and education processes within the army.
- ◆ Lead and influence a diverse and highly skilled workforce of twelve professionals, which include simulation experts, data mining analysts, and financial analysts.
- ◆ Oversee education, training, and process analysis and research.
- ◆ Exercise hiring, promotion, salary, and termination authorities.

2006 - 2008

*Program Director, Systems Core Engineering Sequence*

Head of West Point's most popular and largest core engineering sequence at the nation's oldest engineering college. Influenced sixteen doctoral professors or senior instructors with an annual student load of 600 liberal art majors across a curriculum of three integrated systems engineering courses. Designed and implemented the Academy's first multidisciplinary engineering sequence by engaging other academic departments, mainly the Social Science and Economics, Behavior Science and Leadership, History, and Law Departments. Using a multidisciplinary approach, we created a blended engineering sequence with 120 contact hours, in which students learned and experienced systems thinking, systems decision making, stochastic modeling, decision theory, applied statistics, project management, operations research, and relevant applications with clients.

- ◆ Managed the program's portion of the Middle States Commission on higher education accreditation, which included periodic review reports and assessment.
- ◆ Significantly contributed to West Point's number 1 ranking in Forbes Magazine.
- ◆ Significantly contributed to West Point's number 1 ranking in Public Liberal Arts Colleges in US News and World Report for two consecutive years.
- ◆ Significantly contributed to West Point's number 4 ranking of undergraduate engineering programs nationally.
- ◆ Supervised and advised West Point's first ABET engineering education experience abroad.
- ◆ In addition to teaching two to three classes a semester, led three student capstone undergraduate research teams while personally obtaining \$250,000 research funds from United States Army Recruiting Command:
  - One student capstone team designed and spurred further research into drill sergeant selection using predictive technology and systems engineering design.
  - Two student capstone teams created Bass Diffusion Simulation Models to analyze and design grass roots marketing for the army's enlisted recruiting mission.

2005 - 2006

*Deputy Director, Operations Research Center of Excellence*

Managed all facets of day-to-day operations for West Point's Department of Systems Engineering and Department of Mathematics' research laboratory, which included center of excellence research, faculty research, and student research. Mentored an applied research staff of four senior researchers. Managed multiple research interests and delivered all products within mutually agreed milestones.

- ◆ Obtained \$4.4 million in academic year research funds, personally managing the research of four senior researchers or researching our five major projects within one year.

- Led the research of a systems designed expert system to manage casualty pay and benefits, at first for the army's Human Resource Command and then the department of defense, which obtained \$2 million in research funding.
- Led the research of designing post simulation buildings that incorporated live and virtual simulation and provided space and capacity of army command and control and combat vehicles using simulation and systems design for army's Simulation and Training Command, while obtaining \$750,000 in research funding.
- Personally researched Army Recruiter Selection as a multidisciplinary project with Industrial and Organizational Psychologists. We were able to accurately predict future recruiter performance using predictive technology with an estimated return of investment of \$20 million, net present value, over a five-year lifecycle, while obtaining \$150,000 research dollars from the United States Army Recruiting Command.
- Led the various research portfolios for Program Manager Soldier, which obtained over \$1.5 million in funding and delivered systems design of numerous products such as reducing battery weight and building hand held personnel monitoring units for health, stress, and injury while on combat missions.
- Led the pro bono research effort for the army chaplain's corps that used scheduling and systems design for implementing a chaplain combat assignment model.
- ◆ Engaged over 100 organizations in government and private sector to create or maintain interdependent relationships for summer intern hires, charitable donations or endowments, and potential board of supervisors.

2001 - 2002

*Strategic Planning Director*, United States Army Recruiting Command

Led the United States Army Recruiting Command's strategic planning for an organization with over 4,000 recruiters located in facilities across all fifty states, United States Territories, and abroad. Responsible for the organization's strategic program creation, management and assessment. Intellectual contribution was integral to the execution of modern recruiting and achieving Congressionally mandated recruiting goals in 2001 and 2002. Crafted and designed the Chief Executive Officer's official communications to the President, Congress, centers of influence, senior Army leadership, and the press.

- ◆ Created and implemented the internal strategic message to support the army's new brand, An Army of One.
- ◆ Provided operations research support to the Chief Executive Officer to evaluate and inform policy and marketing strategy.
- ◆ Integrated with President Bush and Senator Hutchinson's (Texas) communications staff for public appearances at veteran national conventions.
- ◆ Assisted the Recruiting Command Chief Executive Officer with launching the new Army Brand.

1999 - 2001

*Strategic Concepts Director*, United States Army Recruiting Command

Developed state of the art marketing, market research, and operational products for the United States Recruiting Command. Responsibilities included concept and innovation generation, concept testing and evaluation, and implementation of marketing and operational systems that provided United

States Army Recruiting Command with a competitive edge. Perform operations research to develop and evaluate innovation.

- ◆ Developed a new point of sale, which transferred reservation scheduling from the military entrance-processing center to the person's home or school.
- ◆ Developed intelligent preparation of the market, which was a geospatial market research tool to increase productivity.
- ◆ Led and managed the Secretary of the Army Recruiting Initiatives, which was a portfolio of initiatives valued at over \$35 million. Included within the portfolio were three major research areas:
  - Managed the research of building the industrial and organizational psychology instrument at a cost of \$750,000
  - Managed the research of two RAND projects dealing with precision market analysis using advanced demography and the economic modeling of recruiter assignment at a cost of \$2 million.
- ◆ Created recruiting simulation and simulation exercises for regional and national sales managers.
- ◆ Analyzed and designed the concept of a two-year term of service, designed to penetrate the college graduate market.
- ◆ Provided significant intellectual capital as a team member that developed Hispanic Recruiting Initiatives.
- ◆ Provided significant intellectual capital as a team member that developed and implemented Partnerships with Industry (PaYs).
- ◆ Tested the enhanced recruiting stations, which are now located in key market areas across the country.

1986 - 1999

*United States Army Officer*

Advanced in multiple leadership positions in armor formations located within the United States and abroad. Throughout, leadership responsibilities increased and culminated with command responsibility to train, equip, and provide a large range of services (medical, dining, maintenance, etc.) for over 300 employees. Main responsibility was to conduct combat operations in support of the national strategic objectives. Developed and practiced fundamental leadership principles such as integrity, selfless service, communication, duty, honor, confidence, and loyalty. Within the operations research component of this time span, I also led or personally researched six major projects in three years while obtaining \$1.5 million in research dollars from other organizations within department of defense:

- ◆ Obtained \$750,000 from the joint strike fighter concept development for leading a simulation team.
- ◆ Obtained \$250,000 from the Naval War College to support their annual summer simulation exercise while leading a simulation team.
- ◆ Obtained \$500,000 from Johns Hopkins Applied Physics Laboratory for the simulation design and support to develop a new class of Navy ship.
- ◆ Published two secret classified national defense scenarios using advanced combat simulation to validate the scenario's risk and success.
  - Southwest Asia Low Resolution Scenario 2.0, Early Entry, which was used to support concept studies such as lightweight artillery, unmanned aerial vehicles and their tactics, and various ground sensor and shooter mixes.
  - Northeast Asia Theater Resolution Scenario 3.0, Theater Missile Defense.

- ◆ Conducted analysis using calculus to optimally place an armor cavalry regiment in the continental United States for best deployment to two potential theaters of operation.

## Professional Military Education

2006 - 2008	United States Army War College
1996 - 1997	Command and General Staff College
1996	Intelligent Technologies in Operations Research
1994	Combined Arms Service Staff College
1994	Operations Research Military Applications Course, Phase II
1994	Operations Research Military Applications Course, Phase I
1990	Armor Captains Career Course
1986	Armor Basic Officer Leadership Course
1984	Airborne Training

## Military Awards

Legion of Merit  
 Bronze Star Medal  
 Meritorious Service Medal (4 awards)  
 Army Commendation Medal (5 awards)  
 Army Achievement Medal (2 awards)  
 Global War on Terrorism Service Medal  
 National Defense Service Medal (2 awards)  
 Desert Shield/Storm Service Medal (3 Campaign Stars)  
 Kuwait Liberation Medal  
 Overseas Service Medal  
 Army Service Medal  
 Valorous Unit Citation  
 Meritorious Unit Citation  
 Parachutist Badge

## Academic Positions

2008 - 2011	<i>Adjunct Professor</i> , University of Richmond, School of Continuing Studies, International Relations
2006 - 2008	<i>Assistant Professor</i> , United States Military Academy, Department of Systems Engineering, Core Engineering Sequence
2005 - 2006	<i>Assistant Professor</i> , United States Military Academy, Department of Systems Engineering, Operations Research Center of Excellence

## Academic Honors

Omega Rho Honor Society, 2003  
 Valedictorian, Operations Research Military Applications Course, Phase II and I, 1994  
 Honor Graduate, Armor Basic Officer Leadership Course, 1986  
 Dean's Honor Roll, United States Military Academy, 1983 - 1986

## Patents and Copyrights

Copyright, Doctoral Dissertation, *Support Vector Machine and Regression Feature Selection with an Application towards Classification*

## Selected Publications

### Refereed Journal Articles

Halstead, John, "Recruiter Selection Model and Implementation Within the United States Army", *IEEE Transactions on Systems, Man, and Cybernetics—Part C: Applications and Reviews*, VOL. 39, NO. 1, January 2009, pages 93-100.

Halstead, John, "Support Vector Machine Feature Selection with an Application towards U.S. Army Delayed Entry Program Losses", Selected for Publication by the *Military Operations Research Society*, Barchi Prize Candidate.

### Refereed Conference Publications

Barker, Gouthro, Jarvis, Markham, Halstead, "Drill Sergeant Value and Prediction Model", IEEE Systems and Information Engineering Design Symposium, April 2008.

Halstead, John, "Systems Engineering Education for Humanities and Social Science Majors at the United States Military Academy", IEEE Educational Activities, Meeting the Growing Demand for Engineers and their Educators, Munich, Germany, November 2007.

Grevious, Holland, Martin, Sinning, and Halstead, "Communicating the Opportunities of Military Service to the Youth Market", IEEE Systems and Information Engineering Design Symposium, April 2007.

Sullivan, Shane and Halstead, John, "Improved Ballistic Test and Evaluation Methodology", IEEE Systems and Information Engineering Design Symposium, April 2006.

Halstead, John and Brown, Donald, "Improving upon Logistic Regression to Predict United States Army Delayed Entry Program Losses", IEEE Systems and Information Engineering Design Symposium, Data mining and Database Applications Track, April 2004. Publication won the best paper award.

### Conference Proceedings

Halstead, John, *Recruiter Selection Model*, presented at INFORMS, 2006.

Halstead, John, *Support Vector Machine Feature Selection with a Recursive Kernel Criterion*, presented at Military Operations Research Society, 2006.

Halstead, John, *Support Vector Machine Feature Selection with an Application towards U.S. Army Delayed Entry Program Losses*, presented at Military Operations Research Society, 2006.

Halstead, John, *Support Vector Machine Feature Selection with an Application towards United States Army Delayed Entry Program Losses*, Joint Accessions Research Consortium, 2005

Halstead, John, *Intelligent Preparation of the Market (IPM) for Target Marketing*, presented at Military Operations Research Society, 2000.

#### Technical Reports

Technical Report given to the Commanding General and Deputy Chief of Staff for Operations, United States Army Training and Doctrine Command, *The New Revolution in Army Learning*, 2010.

Operations Research Center of Excellence Technical Report given to the United States Army Recruiting Command, *Army Opportunity Communication Model*, 2007.

Operations Research Center of Excellence Technical Report given to United States Army Accessions Command, *Recruiter Selection Model*, 2006.

Operations Research Center of Excellence Technical Report given to United States Army PEO Soldier, *Improved Ballistic Test and Evaluation Methodology*, coauthored with Captain Shane Sullivan, 2006.

Technical Report given to United States Army Accessions Command, *Establishing Near-Optimal Controls to Reduce Delayed Entry Training Losses in the United States Army*, coauthored with Dr. Donald E. Brown, 2005.

#### Web Publications

Halstead, John Brantley, *The National Security Agency's Data Mining Effort*, The Institute for End Users Computing, Public Policy Analysis (IEUC-2006-01, IEUC-PPA-01), June 2006

#### Invited Speaker (last five years)

Invited Speaker, Capstone Speech, Senior Army Leader Training Management Course, Fort Monroe, Virginia, Class 10-03

Invited Speaker, Capstone Speech, Senior Army Leader Training Management Course, Fort Monroe, Virginia, Class 10-02

Invited Speaker, Capstone Speech, Senior Army Leader Training Management Course, Fort Monroe, Virginia, Class 10-01

Invited Speaker, Capstone Speech, Senior Army Leader Training Management Course, Fort Monroe, Virginia, Class 09-02

Invited Speaker, IEEE Educational Activities, Munich, Germany, 2007

#### Professional Services (last five years)

Representative, United States Military Academy Engineering and Technology Goal Committee, 2006 – 2008

Officer Representative, United States Military Academy Protestant Sunday School Teachers, 2006 – 2008



Deputy Officer Representative, United States Military Academy, Office of Intercollegiate Activities, Men's Varsity Lacrosse, 2006 – 2008

Websites

<http://www.GoPredictiveAnalytics.com>

[http://web.me.com/johnhalstead/Halstead\\_Herd/Home.html](http://web.me.com/johnhalstead/Halstead_Herd/Home.html)

Professional Societies

Member, IEEE

Member, Military Officers Association of America

United States Security Clearance

Top Secret – SCI, SSBI