

DATA SCIENTIST | ANALYST

Operations Research Analyst and Military Veteran with over 8 years of proven experience in decision and data science. Possesses a comprehensive background in manipulating datasets and building statistical models to discover patterns and insights that aid in solving complex business problems. Adept at providing data – driven decision support, team building, and aligning teamwork with project and organizational goals. Extensive knowledge in constructing predictive models, data manipulation, evaluating new analytical methodologies, and interpreting data. Career supported by two Master of Science (MS) degrees in Operations Research and Engineering Management, and pursuit of a SAS Base Programming Certification.

- Intelligence Analysis
- Data Visualization
- Developing Algorithms
- Program Management
- Statistical Data Analysis
- Survey Design
- Cross – Functional Leadership
- Predictive Modeling
- Executing Predictive Analytics

EDUCATION | CERTIFICATIONS

Master of Science (MS) Operations Research | Air Force Institute of Technology
Master of Science (MS) Engineering Management | University of Missouri at Rolla
Bachelor of Science (BS) Mechanical Engineering | New Mexico State University
SAS Base Programmer 9.4 Certification | Syracuse University | In Pursuit

Specialized Military Training:

Operations Research | Systems Analysis Military Operations Course

TECHNICAL COMPETENCIES

Languages | Software: R | Python | SAS | LaTeX | SQL | Advanced Excel (VBA) | Tableau | PowerBI
Database | File Systems: SQLite | Hadoop (Acquiring)
Libraries: tidyverse | caret | ggplot2 | Shiny | scikit – learn | pandas | numpy

PROFESSIONAL EXPERIENCE

United States Army | Various Locations **2000 – Present**

Operations Research Analyst | Chief of Assessments

Supported Subject Matter Experts on cross – functional teams to identify operational risks and gaps and develop solutions to mitigate those risks and gaps.

- Developed the first data driven, cross – functional process at Army South in 4 years; successfully enabling understanding of the organization’s operations to drive business decisions
- Conducted analytics on unstructured activity and task data to show alignment of the use of organizational resources in terms of time and money against stated priorities
- Constructed a manpower analysis model to enable better manpower decisions after the organizational manpower was reduced from 700+ people to less than 500
- Developed a web – based app in R Shiny that streamlined the analysis of 100s of organizational activities
 - Provided data visualizations to show redundant and unnecessary activities, highlighting potential savings of thousands of dollars

Operations Research Analyst | Combat Analyst

Managed extensive research programs, collaborated with internal and external stakeholders, managed project reimbursable research budgets of over \$400K, and analyzed data for published works and military research.

- Conducted an operational level statistically designed experiment with a simulation model of an Air Force missile system; resulted in providing better design decisions for a \$1M+ weapons system program

- Led a team that developed an agent – based model of crowd behavior; integrated the model with a Java – based, analytic, combat simulation, COMBATXXI
 - Allowed a better quantification of risk for operations involving interactions with civilians
- Led a team to develop and implement a text analytics topic modeling methodology used to improve intelligent document searches as well as assessing a set of products against strategic statements to see how well the documents reflected the strategy
- Developed an optimization model, based on Value Focused Thinking, to optimize organizations for accomplishing specific tasks, creating more efficient organizations
- Constructed an automated environment to conduct designed experimentation in a distributed computing platform, Condor, to increase efficiency of enterprise level system design and testing
- Spearheaded organizational survey development and analysis to review key and critical functions across the Army Military Intelligence enterprise
 - Developed an R Shiny application that allowed efficient analysis of 1,000s of responses to the survey

Operations Research Analyst | Air and Missile Defense Analysis Team Leader

Managed and led a team of 6 operations research analysts conducting capabilities and business analysis for Air and Missile Defense (AMD) systems and processes.

- Conducted a cost vs benefit analysis for a JLENS AMD system in order to show the value gained by the US Army acquiring the system / \$6M program
- Led a team in developing requirements for a command and control system, Integrated Battle Command System, using proven decision theory techniques
- Implemented the use of a combat simulation at the Fires Center of Excellence to support decision making within the AMD acquisition community

PUBLICATIONS

Connors, Casey D., J. O. Miller, and Brian J. Lunday. "Using agent-based modeling and a designed experiment to simulate and analyze a new air-to-air missile." *The Journal of Defense Modeling and Simulation* 13.3 (2016): 321-330.

Boyer, Ryan C., et al. "A Human–Machine Methodology for Investigating Systems Thinking in a Complex Corpus." *IEEE Systems Journal* 12.3 (2017): 2937-2948.

Connors, Casey, et al. "Crowd Behavior Algorithm Development for COMBAT XXI." No. TRACM-TR-17-027. ARMY TRADOC ANALYSIS CENTER MONTEREY CA MONTEREY United States, 2017.

Connors, Casey. "Force 2025 and Beyond Strategic Force Design Analytic Model." No. TRAC-M-TR-17-009. TRAC-Monterey Monterey United States, 2017.

TECHNICAL COMPETENCIES

Software: Microsoft Office Suite 365
Operating Systems: Microsoft Windows/ Linux