

DAVE ZACK

Washington, DC · 732.841.9585 · davidrzack@gmail.com · [LinkedIn](#)

PROFESSIONAL PROFILE

Data analyst with 10+ years in defense modeling complex problems and presenting results. Using my skills to transition into the field of sports analytics. Highly skilled in data analysis, modeling & simulation, data visualization, and presentation.

EDUCATION

University of California, Berkeley
Master of Information and Data Science

December 2023 (expected)

University of Michigan
Bachelor of Science in Engineering, Major: Aerospace Engineering; Minor: Mathematics

April 2011

SKILLS & TOOLS

Programming Languages: Python [Pandas, NumPy, SciPy, Matplotlib, Seaborn, Plotly, Tensorflow, Keras], R, MATLAB, VBA, Java

Machine Learning: Neural networks, recurrent neural networks, convolutional neural networks, clustering, K means, K nearest neighbors, decisions trees, random forest, recommender systems

Statistics: Logistic/Linear regression

EXPERIENCE

Johns Hopkins University Applied Physics Laboratory, Laurel, MD

Combat System Engineer/Analyst

July 2016 – September 2022

- Presented predictive results of multi-billion-dollar program to US Navy Officers using innovative MATLAB data visualizations
- Improved efficiency by automating pre- and post-processing data analysis and visualization tools using MATLAB/Python/Excel
- Utilized advanced statistical techniques, such as Design of Experiments, to analyze the statistical impact of certain input variables on desired measures of effectiveness
- Led defensive portion of a cross-sector effort that explored optimizing a limited volume using various combinations of defensive assets
- Won a special achievement award for providing support to a time-critical study

Schafer Corporation, Arlington, VA

Defense Advanced Research Projects Agency (DARPA) Technical SETA

February 2014 – July 2016

- Supported program management and technical review of the Hypersonic Air-breathing Weapon Concept and received multiple awards for outstanding support
- Participated in key technical and milestone reviews that addressed hypersonic systems, weapon effectiveness, and program management status
- Created briefings that were presented to the Deputy Assistant Secretary of the Air Force, DARPA director, and various other high-level government officials
- Created multiple responses to Program Objective Memoranda, one of which was selected for funding and became the Advanced Full Range Engine program

Missile Defense Agency (MDA), Huntsville, AL

General Engineer/Career Development Rotational Program

September 2012 – February 2014

- Analyzed high-fidelity, hardware-in-the-loop Terminal High Altitude Area Defense (THAAD) simulation results and provided summaries of performance
- Wrote a series of macros in Visual Basic for Applications to automate analysis process, increase efficiency, and reduce human error
- Created automated spreadsheet that greatly increased the efficiency of “what-if” drills

Pacific Controls, Inc., Somerset, NJ

General Engineer

October 2011 – August 2012

- Analyzed client building energy consumption and demand performance using in-house cloud-based software program
 - Designed graphical dashboards to portray building information to clients in a clear, concise and aesthetically appealing manner
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CERTIFICATIONS & ADDITIONAL TRAINING

MIT Professional Education

April 2022

Professional Certification, Applied Data Science Program