MAJ(P) Daniel Baller

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Education

M.S., Operations Research, *Georgia Institute of Technology*	2018
B.S., Operations Research with Honors, *The United States Military Academy*	2008

Academic Experience

Director, Center for Data Analysis and Statistics (CDAS) *United States Military Academy*	2021-2022
Assistant Professor, Department of Mathematical Sciences *United States Military Academy*	2020-2022
Instructor, Department of Mathematical Sciences *United States Military Academy*	2018-2020

Courses Directed

United States Military Academy

MA388 - Sabermetrics	2022
MA376 - (Assistant) Applied Statistics	2021
MA206 - Introduction to Probability and Statistics	2020-2021
MA206 - (Assistant) Introduction to Probability and Statistics	2020
MA206 - Introduction to Probability and Statistics	2019

Courses Taught

United States Military Academy

MA388 - Sabermetrics	2022
MA376 - Applied Statistics	2021
MA206 - Introduction to Probability and Statistics	2019 - 2021
MA103 - Mathematical Modeling and Introduction to Calculus	2018

Short Courses

Data Literacy 101 (21 Iterations)	2022-2024
Data Literacy 101: Train the Educator (8 Iterations)	2023
OS305 - Introduction to Advanced Data Analysis (2 Iterations)	2020-2021
Data Science for Leaders, XVIII Airborne Corps	2021

Publications

Refereed Journal Articles

Campa, F., Thomas, D.M., Watts, K., Clark, N., **Baller, D.**, Morin, T., Toselli, S., Koury, J.C., Melchiorri, G., Andreoli, A., Mascherini, G., Petri, C., Sardinha, L.B., Silva, A.M. (2022) Reference Percentiles for Bioelectrical Phase Angle in Athletes. *Biology* 2022, 11, 264. Impact Factor: 5.079. https://doi.org/10.3390/biology11020264

Thomas, D.M., Siegel, B., **Baller, D.**, Lindquist, J., Cready, G., Zervios, J.T., Nadglowski, J.F., Jr. and Kyle, T.K. (2020), Can the Participant Speak Beyond Likert? Free-Text Responses in COVID-19 Obesity Surveys. *Obesity*, 28: 2268-2271. https://doi.org/10.1002/oby.23037

Baller, D.,, Thomas, D., Cummiskey, K., Bredlau, K., Schwartz, N., Orzechowski, K., Miller, R., Odibo, A., Shah, R., Salafia, C. (2019) Gestational growth trajectories derived from a dynamic fetal–placental scaling law, *Journal of the Royal Society Interface*, Impact factor: 3.224. https://royalsocietypublishing.org/doi/10.1098/rsif.2019.0417

Adams, B., **Baller, D.**, Jonas, B., Joseph, A., Cummiskey, K., Computational Skills for Multivariable Thinking in Introductory Statistics. *Journal of Statistics Education.* https://doi.org/10.1080/10691898.2020.1852139

Conference Proceedings

Morgan, N., Price, E., **Baller, D.,** Kennedy, K., Vidrine, E., (2024) Accelerating Data and AI Literacy in the Public Sector: The Upskilling Imperative, Abstract published in Proceedings of the *The 18th Annual International Chief Data Officer and Information Quality (CDOIQ) Symposium* 84. https://cdoiq2024.org/wp-content/uploads/2024/07/2024-CDOIQ-Pre-Symposium-Proceedings-as-of-July-11-2024.pdf

Akheruzzaman, M., Hefner, M., **Baller, D.**, Clark, S., Feizy, Z., Thomas, D., Dhurandhar, N. (2022) Role of Unprocessed Red Meat in Obesity and RelatedFactors: A Systematic Review and Meta-Analysis, Abstract published in *Oral Abstracts. Obesity (Silver Spring), Volume 30* 43. Impact Factor: 9.298. https://onlinelibrary.wiley.com/doi/epdf/10.1002/oby.23625

Vinnedge, A.*, Schwartz, B., **Baller, D.**, Dykhuis, E. (2022) Utilizing Machine Learning Models to Predict Success in Special Operations Assessment, Proceedings of the *2022 General Donald R. Keith Memorial Capstone Conference (GDRKMCC-22)* 243-248. SISE. http://www.ieworldconference.org/content/WP2022/Papers/6-GDRKMCC-22.pdf

Morin, T., Clark, N., **Baller, D.**, Watts, K. (2018) Estimating Phase Angle Percentiles in Elite Athletes, *Experimental Biology.* Abstract published in *The FASEB Journal*, April, 2020, Impact factor: 5.391, presentation canceled due to COVID-19.

Aloma, Z., Hughes, D., **Baller, D.**, Thomas, D. (2018) The Pitching Problem: Proxy Measures for the Identification of Pitcher Fatigue, *Experimental Biology.* Abstract published in *The FASEB Journal*, April, 2020, Impact factor: 5.391, presentation canceled due to COVID-19.

Baller, D., Johnson, A., McCulloh, I., Schrieber, C., Carley, K. (2008) Specific Communication Network Measure Distribution Estimation, Proceedings of *Sunbelt XXVIII, International Sunbelt Social Network Conference.* https://assets.noviams.com/novi-file-uploads/insna/PDFs/Sunbelt_2008.pdf

Baller, D., Lospinoso, J. (2008) Specific Communication Network Measure Distribution Estimation, Proceeding of the *13th International Command and Control Research and Technology*

Symposium (ICCRTS). http://www.dodccrp.org/events/13th_iccrts_2008/CD/html/papers/251.pdf

Baller, D., Lospinoso, J., Johnson, A. (2008) An Empirical Method for the Evaluation of Dynamic Network Simulation Methods, Proceedings of the *2008 International Conference on Information & Knowledge Engineering, (IKE) Las Vegas, NV, 358-364. 2008.*

Presentations

*Indicates Presenter

Confrence Presentations

'Role of Unprocessed Red Meat in Obesity and RelatedFactors: A Systematic Review and Meta-Analysis,' Akheruzzaman, M.,, Hefner, M., **Baller, D.**, Clark, S., Feizy, Z., Thomas, D., Dhurandhar, N.* *40TH Annual Meeting of the Obesity Society at Obesityweek* San Diego, CA. (2022).

'Rigor, Reproducibility, and Transparency in Nutrition Research Using R Dashboards,' **Baller, D.*** Thomas, D. *American Society for Nutrition: Nutrition 2022* Online. (2022)

'Improved Acceptance Testing Procedures for Army Ammunition,' **Baller, D.***, Schwartz, B. *90th Military Operations Research Symposium* Quantico, VA. (2022).

'Utilizing Machine Learning Models to Predict Success in Special Operations Assessment,' Vinnedge, A.*, Schwartz, B., **Baller, D.**, Dykhuis, E. *2022 General Donald R. Keith Memorial Capstone Conference (GDRKMCC-22)* West Point, NY. (2022). [Note: Awarded **Best Presentation in the Honors Track**]

'Utilizing Machine Learning Models to Predict Success in Special Operations Assessment,' Vinnedge, A.*, Schwartz, B., **Baller, D.**, Dykhuis, E. *DATAWorks 2022: Defense and Aerospace Test and Analysis Workshop.* Alexandria, VA. (2022).

'Two-Stage Stochastic Modeling for C-UAS Acquisition,' Rose, F.*, **Baller, D.**, Lee, A. *Military Operations Research Society (MORS), 2021 Acquisition Analytics for Counter UAS Workshop.* Online, (2021).

'United States Army Counter-Unmanned Aerial System Integration Optimization,' Rose, F.*, **Baller, D.**, Lee, A. *Service Academy Student Math Conference (SASMC).* West Point, NY. (2021).

'Computational Skills for Multivariable Thinking in Introductory Statistics,' Adams, B, **Baller, D.**, Jonas, B., Joseph, A.*, Cummiskey, K. *Joint Statistical Meeting,* Online (2020).

'The (Anti)-Cycle in Baseball,' Previte, P.*, Pulleyblank, W., Turner, D., **Baller, D.** *Service Academy Student Math Conference (SASMC).* Air Force Academy, CO. (2019).

'Specific Communication Network Measure Distribution Estimation,' **Baller, D.***, Johnson, A., McCulloh, I., Schrieber, C., Carley, K. *Sunbelt XXVIII, International Sunbelt Social Network Conference.* St. Petersburg, FL. (2008).

'Specific Communication Network Measure Distribution Estimation,' **Baller, D.**, Lospinoso, J.* *13th International Command and Control Research and Technology Symposium (ICCRTS).* Seattle, WA. (2008).

'An Empirical Method for the Evaluation of Dynamic Network Simulation Methods,' **Baller, D.**, Lospinoso, J.*, Johnson, A. *The 2008 International Conference on Information & Knowledge Engineering, (IKE)* Las Vegas, NV. (2008).

Guest Lectures and Invited Talks

'Accelerating Data and AI Literacy in the Public Sector: The Upskilling Imperative' Panelist, *The 18th Annual International Chief Data Officer and Information Quality (CDOIQ) Symposium* Cambridge, MA. (2024)

"Data Literacy for Leaders," Headquarters Department of the Army Deputy Chief of Staff G-2 (HQDA DCS G-2) Leadership Professional Development, Pentagon, Washington DC. (2024)

'Data Thugs and Dashboards: Increasing Transparency in Nutrition Research,' Department of Nutritional Sciences, Texas Tech University, Lubbock, TX. (2022)

Posters

'Predicting Success and Identifying Key Characteristics in Special Forces Selection' Bobinski, M.*, Starling, J., **Baller, D.**, Brager, A., *DATAWorks 2023: Defense and Aerospace Test and Analysis Workshop.* Alexandria, VA. (2023).

'Utilizing Machine Learning Models to Predict Success in Special Operations Assessment' Vinnedge, A.*, Schwartz, B., **Baller, D.**, Dykhuis, E., *DATAWorks 2022: Defense and Aerospace Test and Analysis Workshop.* Alexandria, VA. (2022). [Note: Awarded Outstanding Poster Presentation]

'Gestational growth trajectories derived from a dynamic fetal–placental scaling law.' **Baller, D.***, Thomas, D., Cummiskey, K., Bredlau, K., Schwartz, N., Orzechowski, K., Miller, R., Odibo, A., Shah, R., Salafia, C. *MAA MathFest*, (2019).

Funding Awarded

Grant, Faculty Development Research Fund (FRF)	2019

Professional Memberships

Mathematical Association of America	2019
Alpha Pi Mu - Industrial Engineering Honor Society	2018
Institute of Industrial and Systems Engineers (IISE)	2016-2018
Pi Mu Epsilon - Mathematics Honors Society	2007

Faculty Development

United States Military Academy

Presenter | Advanced Dashboarding in R, Center for Faculty Development	2022
Presenter | Intro to GitHub and R Markdown, Center For Faculty Development	2021
Presenter | Intro to Dashboarding in R, MA206	2021
Panelist | Technology in the Classroom, MA206	2021
Presenter | Department Bayesian Statistics Study Group	2019

Student Research

Co-Adviser

Honors thesis, Bobinski, Mark, "Predicting Success and Identifying Key Characteristics in Special Forces Assessment and Selection (SFAS)" With James Starling and Allison Brager. (2022-2023).

Honors thesis, Chinn, Samantha, "Increasing the Efficiency in the Objective Evaluation of Text Data: What does the Public Think about COVID-19 Guidelines." With Joseph Lindquist and Diana Thomas. (2021-2022).

Honors thesis, Vinnedge, Anna, "Machine Learning Analysis to Determine Predictive Factors of Special Operations Assessment Success." With Blake Schwartz, Elise Dykhuis. (2021-2022).

Thesis, Jorgenson, Robert, "Predictive Modeling for Special Forces Retention." With Blake Schwartz. (2021).

Independent Study, Edegbe, Naomi, "Predictive Modeling for Success in the Special Forces Training Pipeline." With Blake Schwartz. (2021).

Honors Thesis. Seigel, Benjamin, "The hidden message in letters of recommendation: A natural language processing analysis of letters of recommendation at the United States Military Academy." With Joseph Lindquist and Diana Thomas. (2020-2021).

Honors Thesis. Rose, Frank, "Two-Stage Stochastic Optimization for C-UAS Acquisition." With Andrew Lee. (2020-2021).

Honors Thesis. Morin, Thomas, "Estimating Phase Angle Percentiles in Elite Athletes." With Nicholas Clark and Krista Watts. (2019-2020)

Honors Thesis. Hurtubise, Jacob, "Analysis of Base Stealing – the fastest 3.3 seconds in sports." With Bill Pulleyblank and Michael Scioletti. (2019-2020).

Honors Thesis. Aloma, Zachary, "The Pitching Problem: Proxy Measures for the Identification of Pitcher Fatigue." With David Hughes and Diana Thomas. (2019-2020).

Honors Thesis. Previte, Peter, "The Anti-Cycle in Baseball." With William Pulleyblank and Dusty Turner. (2018-2019).

Second Reader

Cunningham, Nicholas, "Measuring the Effect of Writing Centers Using Statistical Methods" (2020).

Nicosia, Gino, "Modeling Madness." (2019).

Wilby, Bridget, "Forecasting Medical Screening Demand: Analysis of the Cadet Foreign Travel Medical Screening Process." Hollis Award Winner. (2019).

Institutional and Student Developmental Service

Data Champion, U.S. Army Intelligence and Security Command	2022-Present
Reviewer for the International Journal of Obesity, Impact Factor 5.1	2022-Present
Reviewer for the American Journal of Clinical Nutrition (the top ranked journal for original research publications in nutrition) Impact Factor 6.77	2020-Present
Member, Dean's Remote Teaching Distance Education Working Group (RTDEWG)	2020
Triage Judge, Interdisciplinary Contest in Modeling by COMAP	2020

Reviewer for PLOS ONE, Impact Factor 2.74	2019-Present
Military Intelligence Branch Mentor	2018-2022
IISE Graduate Chapter President, Georgia Institute of Technology	2017
Department Photographer	2018-Present

Selected Military Service

Fort Belvoir, VA	2022-Present

Division Chief, Operations Analysis Division, US Army Intelligence and Security Command (INSCOM)

Fort Belvoir, VA	2022-Present

Data Scientist, US Army Intelligence and Security Command (INSCOM)

Yongsan Garrison, KOR	2015-2016

Assistant Operations Officer, 501st MI BDE

Camp Humphreys, KOR	2014-2015

Company Commander, A CO, 719th MI BN, 501st MI BDE

Camp Casey, KOR	2013-2014

Battalion Intelligence Officer, 2-9 Infantry Battalion, 1 ABCT

Deployments

Operation Iraqi Freedom/Operation New Dawn, Iraq	2010

Selected Awards

IISE Innovative Design Competition, 2nd Place	2017
Meritorious Service Medal (3)	
Army Commendation Medal (3)	
Army Achievement Medal (1)	
Air Assault Badge	
Overseas Service Ribbon (3)	
Office of the Secretary of Defense Network Science Excellence Award – Best Student Project	
Network Science – United States Military Academy, West Point, New York,	2008