Dusty Turner

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Education

PhD, Statistical Science, *Baylor University*	2025

Thesis : Principled Tools for Modeling and Visualizing 2D Vector Fields
Advisors: Dr. David Kahle and Colonel (Ret.) Rodney Sturdivant, PhD

M.S., Integrated Systems Engineering, *The Ohio State University*	2016
Graduate Minor, Applied Statistics, *The Ohio State University*	2016
M.S., Engineering Management, *Missouri University of Science and Technology*	2012
B.S., Operations Research, *The United States Military Academy*	2007

Academic Experience

Associate Program Director, Applied Statistics and Data Science Program
United States Military Academy   2025-Present
Assistant Professor, Department of Mathematical Sciences
United States Military Academy   2025-Present
Instructor and Assistant Professor, Department of Mathematical Sciences
United States Military Academy   2016-2019

Awards

The NATO External Operations Platform Data Challenge Award for Best User Experience and runner up for Most Innovative Analysis   2022
Army Operations Research Symposium (AORS) Dr Wilbur Payne Award for Excellence in Analysis Presentation | Award   2021
Finalist Military Operations Research Society (MORS) David Rist Prize
Presentation | Award   2021
The Center for Army Analysis Director's Award for Excellence   2021
Kaggle's NCAA (Men) March Madness Competition 2nd/707   2021
BG (Retired) Jack Murphy Polin Award for Faculty Excellence, The United States Military Academy at West Point   2019
Army Operations Research Symposium (AORS) Military Junior Analyst of the Year Award 2019

Courses Taught

West Point

MA206 - Introduction to Probability and Statistics (Fall)	2025
MA206 - Introduction to Probability and Statistics (Summer)	2019
MA256 - Advanced Introduction to Probability and Statistics (Spring)	2019
MA388 - Sabermetrics (Spring)	2019
MA488 - Special Topics in Mathematics: Statistical Learning (Fall)	2018

MA256 - Advanced Probability and Statistics (Spring/Fall)   2018
MA388 - Sabermetrics (Spring)   2018
MA206x - Advanced Introduction to Probability and Statistics Pilot Course (Spring/Fall) 2017
MA103 - Mathematical Modeling and Introduction to Calculus (Fall)   2016

Courses Directed

West Point

MA256 - Advanced Introduction to Probability and Statistics (Spring/Fall)   2019
MA388 - (Assistant) Sabermetrics (Spring)   2019
MA206 - Introduction to Probability and Statistics (Summer)   2018
MA388 - (Assistant) Sabermetrics (Spring)   2018
MA256 - Advanced Introduction to Probability and Statistics (Spring/Fall)   2018
MA206x - Advanced Introduction to Probability and Statistics Pilot Course (Spring/Fall) 2017

Short Courses

MORS Tutorial - Modeling in R and Python. Link (December)   2021
MORS Emerging Techniques Tutorial - Deterministic Modeling with Differential
Equations in R and Collaboration with Git Link (October)   2020
MORS Tutorial - Intermediate R (Data Manipulation, Visualization, and Modeling)
Link (June)   2020
CAA - Introduction to R and Data Analysis: Canceled due to COVID-19 (April/May)   2020
OS305 - Introduction to R for Intelligence Analysis: 5 Iterations   2019-2021
CAA - Introduction to R and Data Analysis (Oct/Nov)   2019

Textbooks

Turner D (Editor). (2022). *Center for Army Analysis's Introduction to R*. Link. Requires DOD CAC Access

Turner D (Editor). (2021). *Center for Army Analysis's Introduction to Python*. Link. Requires DOD CAC Access

Turner D. (2021). "Modeling with Tidymodels." Chapter in *Center for Army Analysis's Introduction to R*. Link. Requires DOD CAC Access

Turner D. (2021). "Statistics in R." Chapter in *Center for Army Analysis's Introduction to R*. Link. Requires DOD CAC Access

Cummiskey K, Pleuss J, Adams B, **Turner D**, Sulewski C, and Watts K. (2021). "An Undergraduate Statistics Project to Develop Statistical Thinking and Effective Writing." Ch 8, in Morten G. Ender, Raymond A. Kimball, Rachel M. Sondheimer, and Jakob C. Bruhl (editors). *Teaching and Learning the West Point Way: Educating the Next Generation of Leaders*. New York and London: Routledge.

Refereed Publications

Ducharme SW, Pleuss JD, **Turner DS**, Zheng P, Adandom II, & Aguiar EJ. (2025). Normative peak physical activity values for monitor-independent movement summary units: National Health and Nutrition Examination Survey 2011–2014. *Journal of Physical Activity and Health*. Link

Aguiar EJ, **Turner D**, Pleuss JD, Zheng P, Benitez CJ, Ducharme SW. (2024). Daily and peak Monitor-Independent Movement Summary (MIMS) values associated with metabolic syndrome: NHANES 2011–12 and 2013–14. *Scandinavian Journal of Medicine & Science in Sports*, 34: e14762. Link

Zheng P, Pleuss JD, **Turner D**, Ducharme SW, Aguiar EJ. (2023). Dose-response association between physical activity (daily MIMS, peak 30-minute MIMS) and cognitive function among older adults: NHANES 2011-2014. *The Journals of Gerontology: Series A*, 78(2), 286-291. Link

Smith M, **Turner D**, Spencer C, Gist N, Ferreira S, et al. (2023). Body shape and performance on the US Army Combat Fitness Test: Insights from a 3D body image scanner. *PLOS ONE*, 18(5): e0283566. Link

Heymsfield S, Smith B, Chung E, Watts K, Gonzalez M, Yang S, Heo M, Thomas D, **Turner D**, Bosy-Westphal A, and Müller M. (2022). Phenotypic differences between people varying in muscularity. *Journal of Cachexia, Sarcopenia and Muscle*, 13(6), 2735-2746. Link

Thomas D, Yoshitani G, **Turner D**, Hariharan A, Bhutani S, Allison D, Moniz A, Heymsfield S, Schoeller D, Hull H, and Fields D. (2022). Overflowing tables: Changes in the energy intake and the social context of Thanksgiving in the United States. *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, 55(4), 245-258. Link

Turner D and Drake M. (2021). The military operations research response to COVID-19. *Phalanx: The Magazine of National Security Analysis*, June 2021, pp. 30–34.

Lindquist J, Thomas D, **Turner D**, Blankenship J, Kyle T. (2021). Food for thought: A natural language processing analysis of the 2020 Dietary Guidelines public comments. *The American Journal of Clinical Nutrition*, 114(2), 405-414. Link

Ducharme S, **Turner D**, Pleuss J, Moore C, Schuna J, Tudor-Locke C, Aguiar E. (2020). Using cadence to predict the walk-to-run transition in children and adolescents: A logistic regression approach. *Journal of Sports Sciences*, 38(22), 2551-2558. Link

Turner D, Pleuss J, Collins C. (2020). The impact of academically homogeneous classrooms. *PRIMUS*, 30(8-10), 982-997. Link

Cummiskey K, Adams B, Pleuss J, **Turner D**, Clark N, Watts K. (2019). Causal inference in introductory statistics courses. *Journal for Statistics Education*, 27(1), 2-8. Link

Long JD, **Turner D**. (2019). Applied R in the classroom. *Australian Economic Review*, 52(3), 355-360. Link

Sesti J, Sikora T, **Turner D**, Turner A, Langan R, Nguyen A, Paul S. (2019). Disparities in follow-up after low-dose lung cancer screening. *Seminars in Thoracic and Cardiovascular Surgery*, 31(4), 610-617. Link

Thomas D, Clark N, **Turner D**, Siu C, Halliday T, Hannon B, Kahathuduwa C, Kroeger C, Zoh R, Allison D. (2019). Best (but oft-forgotten) practices: Identifying and accounting for regression to the mean in nutrition and obesity research. *The American Journal of Clinical Nutrition*, 111(2), 256-265. Link

Bigelman K, East W, Thomas D, **Turner D**, Hertling M. (2019). The new Army Combat Fitness Test: An opportunity to improve recruitment and retainment. *Obesity*, 27(11), 1773-1779. Link

Lindquist J, Peng D, Rochelle S, **Turner D**, Warshaw M. (2019). Effective use of public perceptions in assessments. *The Journal of Defense Modeling and Simulation*, 16(4), 285–295. Link

Turner D, Costa G. (2019). Yankees or Mets... Who owns New York City? *The Baseball Research Journal*, 48(1), 82-87.

Thomas D, Clark N, **Turner D**, Siu C, Halliday T, Hannon B, Kahathuduwa C, Kroeger C, Allison D. (2018). Identifying if regression to the mean is a problem in a study. *IUScholar Works*. Link

Garrett M, Kuiper P, Hood K, **Turner D**. (2018). Leveraging mutual information to generate domain specific lexicons. In *Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation* (pp. 263-272). Link

Alex J, **Turner D**, Thomas D, McDougall A, Halawani M, Heymsfield S, Martin C, Scisco J, Salley J, Muth E, Hoover E. (2018). Bite count rates in free-living individuals: New insights from a portable sensor. *BMC Nutrition*, 4(1), 28. Link

Works Under Review

Turner D, Sturdivant R, Kahle D. (2025). ggvfields: Vector field visualization in R. Manuscript under review. *R Journal*.

Technical Reviews

Luraschi J, Kuo K, Ruiz E. (2019). *Mastering Spark with R: The Complete Guide to Large-Scale Analysis and Modeling*. O'Reilly Media Inc.

Long J, Teetor P. (2019). *R Cookbook* (2nd ed.). O'Reilly Media Inc.

Conference Proceedings

Lindquist J, Peng D, Rochelle S, **Turner D**, and Warshaw M. (2018). Best practices for eliciting public perceptions in conflict environments – Working group summary. *Proceedings of the MORS Special Session on Assessment of Named Operations*, MacDill AFB, FL. Link

Turner D, Hood K, Kuiper P, Lindquist J. (2018). Sentiment analysis in a restricted operational environment. In *Proceedings of the NATO Big Data and Artificial Intelligence for Military Decision Making*. Bordeaux, France. Link

Peer Reviewed Conference Abstracts

Ploch C, **Turner D**, Adams B, Hug A, Suby J, Palmer J, Thomas D, Bigelman K. (2018). Prediction of cadet basic training physical performance outcomes. *Experimental Biology*.

Presentations

Turner D. (2023). World leaders, military service, and their propensity to go to war. Invited presentation at the *Government R Conference*, Washington DC.

Turner D. (2023). Kaggle and modeling the NCAA tournament. Invited presentation to the *Baylor Sports Analytics Club*, Baylor University, Waco, TX.

Turner D. (2022). Win your fantasy football auction draft. Invited presentation at the *Government R Conference*, Washington DC. Link

Turner D. (2021). Vaccine distribution modeling at the Center for Army Analysis. Invited presentation for the Department of Mathematical Sciences, West Point, NY.

Thomas D, Allison D, Heymsfield S, Hariharan A, Yoshitani G, **Turner D**, Moniz A, Pontzer H, Fields D, Bhutani S, Schoeller D. (2021). Overflowing tables: Social construct of Thanksgiving energy intake throughout American history. *Social Science History Association Annual Meeting*, Philadelphia, PA.

Zuber M, **Turner D**, Drake M. (2021). Afghan Passengers Programming Linearly for Evacuation Support (APPLES). *United States Army Data Science and Intelligent Automation Community of Interest Technology Talk* (Virtual).

Drake M, Lynch S, Ward R, Minor K, **Turner D**. (2021). Center for Army Analysis COVID Data Analysis Project. *Army Operations Research Symposium* (Virtual). Link

Turner D. (2021). Accessing the DataRobot API in R. *Army Operations Research Symposium* (Virtual). Link (Requires DOD CAC Access) | Link

Lynch S, Drake M, Ward R, Minor K, **Turner D**. (2021). Center for Army Analysis pandemic analysis for senior leaders. *Military Operations Research Symposium* (Virtual). Link

Turner D. (2020). Center for Army Analysis COVID model and estimating effective R_0. *Army Operations Research Symposium*, Aberdeen Proving Grounds, MD (Virtual due to COVID-19). Link

Chapman C, Drake M, Ehlers C, Helms J, Jackson S, Minor K, **Turner D**, Ward R, Zuber M. (2020). COVID modeling at CAA. *Military Operations Research Symposium Special Session*, New London, CT (Virtual due to COVID-19). Link

Turner D, Adams B, Scioletti M, Thomas D. (2020). Injury detection in cadet basic training. *Military Operations Research Symposium*, New London, CT (Virtual due to COVID-19). Link

Turner D, Kuhn M. (2019). Introducing tidymodels. *MORS Emerging Techniques Forum*, Alexandria, VA. Link

Pleuss J, **Turner D**. (2018). The effect of academically homogeneous classrooms in undergraduate statistics education. *Joint Statistical Meetings*, Vancouver, Canada.

Turner D, Pleuss J. (2018). Modeling undergraduate statistics performance. *Joint Statistical Meetings*, Vancouver, Canada. Link

Turner D, Hood K, Kuiper P, Lindquist J. (2018). Machine learning, artificial intelligence, and sentiment analysis in restricted operating environments. *NATO Information Systems and Technology Specialists' Meeting on Big Data and Artificial Intelligence for Military Decision Making*, Bordeaux, France. Link

Turner D. (2018). Modeling the 2018 Men's NCAA Tournament. *West Point Sports Analytics Club*, West Point, NY. Link

Turner D. (2018). Putting the R in USMA: Teaching statistics in an academically homogeneous classroom. Invited presentation at the *New York R Conference*, New York City, NY. Link

Turner D. (2018). Web scraping in R. *Center For Data Analysis Lecture Series*, West Point, NY. Link

Turner D, Hood K, Kuiper P, Lindquist J, Risius D. (2018). Public perception to the government response to Hurricane Maria in Puerto Rico. *Military Operations Research (MORS) Assessments Special Session*, McDill Air Force Base, FL. Link

Turner D. (2017). Data scraping in R. *Military Operations Research Symposium (MORS)*, West Point, NY. Link

Statistical Consulting Activity (Partial List)

Baylor University Clients   2022-2023
    Army Baylor: Vasectomy Failure Analysis
Assistant Director, Center for Data Analysis and Statistics (CDAS)   2016-2019
United States Military Academy Clients   2016-2019
    Director of Admissions: Visualizing Minority Cadets by Congressional District
    Director of Admissions: Analysis of Altering Early Admissions Criteria for Corps Squad Athletes
    Public Affairs Office: Analysis of Social Media Trends Impacting the Academy Shiny App
    STEM Middle School Outreach: Created Application To Support Communication Between Administrators and Parents. Shiny App
Novartis: Developed statistical models and provided statistical analysis related to a weight loss compound. Updated an interdisciplinary team of investigators on progress through weekly calls.   June 2017-June 2018
RWJ Barnabas Health: Analyzed Procalcitonin/Esophagectomy leak relationship. 2017-2019
Bear Mountain Bakery: Conducted analysis to help owners better understand their clients, products, and what conditions lead to a drops and spikes in sales.   February 2019

Peer Professional Development

Center for Army Analysis Tutorial (CAA): Git and Gitlab for Beginners   December 2019
CAA Tutorial: Tweet Classification in R   January 2019
CAA / TRAC White Sands Tutorial: Tidy Modeling in R   February 2019

Professional Memberships

Army Operations Research Society (AORS)   2019 - Present
American Statistical Association (ASA)   2018 - Present
Military Operations Research Society (MORS)   2018 - Present
Pi-Mu-Epsilon   2016 - Present
Phi-Kappa-Phi   2016 - Present
New York Open Statistical Meetup   2016 - Present
Society for American Baseball Research (SABR)   2018

Faculty Development

Graduate | Master Teacher Program, United States Military Academy   2018
Member | Department of Mathematical Sciences Book Club
Member/Presenter | Bi-Weekly Statistics Lunch
Member | Bayesian Data Analysis Seminar Series
Presenter/Panelist | New Faculty Development Workshop

Student Research

Co-Adviser, Honors Thesis.

    McGinnis, Reilly, "COVID-19 Spatio-Temporal Modeling" (2020/2021)

    Teague, Madison, "COVID-19 Testing and Simulation" (2020/2021)

    Previte, Peter, "The Anti-Cycle" Data Analysis and Baseball (2018/2019)

    Nicosia, Gino, Modeling the 2019 NCAA Basketball Tournament (2018/2019)

    Palmer, James, ACT Impact of Admissions into the USMA (2018/2019)

    McCusker, Caroline, Prep School and Success at USMA (2018/2019)

    Haley Conger, SAT Impact of Admissions into the USMA (2018/2019)

    Stockdale, John, Predicting Physical Performance Success at West Point (2017/2018)

    McDermott, Stephanie, A Statistical Analysis of MA104 Performance (2017/2018)

Co-Adviser, Capstone

    Martinez, Michael, Standardized Test Scores and the Relationship With Plebe Math Scores (2018/2019)

    Ryu, Eric, QB ISO: An Objective Approach to NFL Quarterback Rating (2017/2018)

Student Development Service

Head Officer In Charge, Veritas Forum	2017-2019
Head Officer In Charge, Sports Analytics Club (Informal)	2017-2019
Leadership Mentor for 32 Cadets, Psychology for Leaders	2017-2019
Officer Representative, Officer Christian Fellowship (OCF) Club	2016-2019
Sponsor for 25 Cadets, Fourth Class Sponsorship Program	2016-2019
Academic Officer In Charge	2016-2019
Cadet Team Adviser, Interdisciplinary Contest in Modeling	2016

Hosted Seminars

James Long, *Modeling, Mistakes, and Madness*, MA256/MA206 Course Lecture, April 2019.

David Dudrick, *Nietzsche was Right: the Christian Grounding of Our Morality*, Veritas Forum. February 2019.

Hadley Wickham, *Interdiction to the Data Analysis*, Center for Data Analysis Speaker Series and MA256 Course Lecture. October 2018.

Max Kuhn, *Applied Predictive Modeling*, Center for Data Analysis Speaker Series and MA256/MA206 Course Lecture. September 2018.

David Robinson, *Text Analysis: The Tidy Way*, Center for Data Analysis Speaker Series and MA256 Course Lecture. April 2018.

Vince Vitale, *Why Suffering?*, Veritas Forum. February 2018.

James Long, *Picking an analysis tool: how to recognize the limits of your tools*, Center for Data Analysis Speaker Series and MA388 Course Lecture. February 2018.

Emily Robinson, *A/B Testing in the Wild*, Center for Data Analysis Speaker Series and MA206x Course Lecture. October 2017.

Jared Lander, *R For Everything*, Center for Data Analysis Speaker Series. September 2017.

Institutional Service

Member, Department of Mathematical Sciences Curriculum Committee	2025-Present
Member, Admissions Committee	2025-Present
Member, Junior Rotator Hiring Committee	2025-Present
Founder and Organizer, Center for Army Analysis Book Club	2020-2021

The Junior Military Counsel to the Superintendent	2016-2019
Superintendent's Transition Team	2018
Incoming Class Summer Assessment Testing Volunteer	2018
Developer of curriculum and student selection for first USMA course in advanced introduction to statistics	2016-2019
Developer of curriculum and planning for Statistics and Data Science Major at USMA	2018-2019

Professional Service

Judge, Mathematics Research Symposium (MaRS), U.S. Military Academy at West Point, May 2024

Peer Reviewer, Journal of Defense Modeling and Simulation	2019
Functional Area 49 Recruiting Committee	2018-Present

Community Service

Head Youth Flag Football Coach	2023
Assistant Travel Softball Coach	2023
Assistant Youth Basketball Coach	2022
Head Youth Basketball Coach	2022
Assistant Youth Baseball Coach	2019-2023
Assistant Youth Soccer Coach	2017-2019
Assistant T-Ball Coach	2016-2019

Selected Military Service

Fort Belvoir, Virginia	2019-Present
Data Scientist / ORSA, Center for Army Analysis	
White Sands Missile Range, New Mexico	2012-2014
Company Commander, 40th Mobility Augmentation Company	
Plans Officer, 2nd Engineer Battalion	
Schofield Barracks, Hawaii	
Chief of Operations, 65th Engineer Battalion	2008-2011
Executive Officer, 34th Sapper Company	
Platoon Leader, 70th Geospatial Company	

Deployments

Operation Iraqi Freedom, Taji, Iraq	2008-2009
Operation Enduring Freedom, Ghazni, Afghanistan	2013

Selected Military Awards

Bronze Star
Purple Heart
Meritorious Service Medal (1 Oak Leaf Cluster)
Army Commendation Medal (2 Oak Leaf Clusters)
Army Achievement Medal (1 Oak Leaf Cluster)
Sapper Tab