

# Dusty Turner

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## Education

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

## Academic Experience

Instructor and Assistant Professor, Department of Mathematical Sciences <i>United States Military Academy</i>	2016-2019
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## Awards

Army Operations Research Symposium (AORS) Dr Wilbur Payne Award for Excellence in Analysis <a href="#">Presentation</a>   <a href="#">Award</a>	2021
Finalist Military Operations Research Society (MORS) David Rist Prize <a href="#">Presentation</a>   <a href="#">Award</a>	2021
The Center for Army Analysis Director's Award for Excellence	2021
2nd (of 707) in Kaggle's <a href="#">NCAA (Men) March Madness Competition</a>	2021
BG (Retired) Jack Murphy Pollin 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

<b>West Point</b>	
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

<b>West Point</b>	
MA256 - Advanced Introduction to Probability and Statistics (Spring/Fall)	2019
MA388 - (Assistant) Sabermetrics (Spring)	2019
MA206 - Introduction to Probability and Statistics (Summer)	2018

<b>MA388</b> - (Assistant) Sabermetrics (Spring)	2018
<b>MA256</b> - Advanced Introduction to Probability and Statistics (Spring/Fall)	2018
<b>MA206x</b> - Advanced Introduction to Probability and Statistics Pilot Course (Spring/Fall)	2017

## Short Courses

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

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, DOI: <https://doi.org/10.1002/jcsm.12959> [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, DOI: 10.1080/01615440.2021.2010153 [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*." [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*. [Link](#)

**Turner D**, Pleuss J, Collins C. (2020) “The Impact of Academically Homogeneous Classrooms.” *PRIMUS*. [Link](#) | [Link](#)

Cummiskey K, Adams B, Pleuss J, **Turner D**, Clark N, Watts K. (2019) “Causal Inference in Introductory Statistics Courses.” *Journal for Statistics Education*. [Link](#)

Long JD, **Turner D**, (2019) “Applied R in the Classroom.” *Australian Economic Review*. [Link](#)

Sesti J, Sikora T, **Turner D**, Turner A, Langan R, Nguyen Andrew, Paul S. (2019) “Disparities in Follow-Up After Low-Dose Lung Cancer Screening.” *Seminars in Thoracic and Cardiovascular Surgery* [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*. [Link](#) | [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* [Link](#) | [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](#) | [Link](#)

**Turner, D**, Costa, G. (2019) “Yankees or Mets...Who Owns New York City?” *The Baseball Research Journal* [Link](#)

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.” *Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation*. [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*. [Link](#)

## 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](#) | [Link](#)

**Turner D**, Hood K, Kuiper P, Lindquist J. (May 2018) "Sentiment Analysis in a Restricted Operational Environment" Proceedings of the *NATO Big Data and Artificial Intelligence for Military Decision Making*. Bordeaux, France 30MAY-1JUN2018 [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*.

## Works In Progress

Previte P, **Turner D**, Baller D, Pulleyblank B. Introducing the Anti-Cycle.

## Presentations

**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, 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. "COVID Modeling at CAA" (2020). *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, Virginia. [Link](#)

Pleuss James, **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, New York. [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, New York. [Link](#)

**Turner D** (2018). "Web Scraping in R" *Center For Data Analysis Lecture Series*, West Point, New York. [Link](#)

**Turner D**, Hood K, Kuiper P, Lindquist J, Risius D (2018). "Public Perception to the Government Response to Hurricane Maria in Puerto Rico." Presentation at the *Military Operations Research (MORS) Assessments Special Session*, McDill Air Force Base, FL. [Link](#)

**Turner, D** (2017). Data Scraping in R. Presentation at the *Military Operations Research Symposium (MORS)*, West Point, NY. [Link](#)

## Statistical Consulting Activity (Partial List)

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

## Faculty Development

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**

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**

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

### **Community Service**

Assistant Youth Baseball Coach	2019
Assistant Youth Soccer Coach	2017-2019
Assistant T-Ball Coach	2016-2019

### **Selected Military Service**

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