# **Dusty Turner**

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#### **Education**

| 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>B.S.</b> , Operations Research, <i>The United States Military Academy</i> | 2007 |

# **Academic Experience**

Instructor and Assistant Professor, Department of Mathematical Sciences United States Military Academy

2016-2019

#### **Awards**

HQDA Staff Officer of the Quarter 3Q/FY20, The United States Army, 2020.

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 Award, 2019.

# **Courses Taught**

#### **West Point**

| 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    |
| MA <sub>3</sub> 88 - Sabermetrics (Spring)   | 2018    |
| MA206x - Advanced Introduction to Probability and Statistics Pilot Course (Spring/Fall | l) 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/Fa | all) 2017 |

#### **Short Courses**

MORS Emerging Techniques Tutorial - Deterministic Modeling with Differential Equations in R and Collaboration with Git Link (October)

MORS Tutorial - Intermediate R (Data Manipulation, Visualization, and Modeling) Link (June)

CAA - Introduction to R and Data Analysis: Canceled due to COVID-19 (April/May)

2020

OS305 - Introduction to R for Intelligence Analysis: 4 Iterations

2019-2020

CAA - Introduction to R and Data Analysis (Oct/Nov)

2019

# **Book Chapters**

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," pp. xx-xx, 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) (Under Review)

#### **Refereed Publications**

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.

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

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

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

#### **Works Under Review**

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. A Journal of Quantitaive and Interdisciplineary History.

#### **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. Prediction of Cadet Basic Training Physical Performance Outcomes. *Experimental Biology* 2018.

# **Works In Progress**

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

Turner D, Drake M. A Survey of Military COVID-19 Responses. *Phalanx* 

### **Presentations**

**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 Kyle, **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 Tidymodles." *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 |
| Society for American Baseball Research (SABR) | 2018           |

# **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, Maddison, "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      |
|---|---|-----------|
| , | The Junior Military Counsel to the Superintendent                               | 2016-2019 |
| ( | Superintendent's Transition Team  | 2018      |
| ] | ncoming 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 |
|---|--------------|
| 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)