Nicholas J. Clark

Lieutenant Colonel, U.S. Army

Personal Information

Department of Mathematical Sciences - USMA
West Point, NY 10996

Email: nicholas.clark@westpoint.edu
Family: Spouse (Sarah),
Two Daughters (Piper -10, Raegan - 8)

Education

Ph.D. Statistics, Iowa State University, 2018.

M.S. Statistics, George Mason University, 2011.

B.S. Mathematical Sciences, United States Military Academy, 2002.

Academic Honors and Awards

Recipient, Outstanding Academic Development, Department of Statistics, Iowa State University, 2017.

Designee, Graduate College Emerging Leader, Iowa State University, 2017-2018.

Recipient, Best Paper, Young Researcher Paper Competition, Section for Statistics in National Defense and Security, American Statistical Association, 2017.

GEN Omar N. Bradley Research Fellowship in Mathematics, 2017.

Recipient, Distinguished Academic Achievement awarded to top Master's Student in the Statistics Department, George Mason University, 2011 .

Designee, Distinguished Cadet, USMA 2002.

Phi Kappa Phi Honor Society, 2002.

Professional History/Teaching Experience

2018 - Current. Assistant Professor, Department of Mathematical Sciences, United States Military Academy

Courses taught:

MA486 Mathematical Computation

MA376 Applied Statistics

MA476 Mathematical Statistics

MA206Y Data Analysis

MA 489 Bayesian Statistics

Course Director

MA476 Mathematical Statistics

MA376 Applied Statistics

2015 - May 2018. Ph. D. Student, Iowa State University, Ames, Iowa.

2013 - 2015. Commander of Analytical Support Troop, United States Army Special Operations Command, Fort Bragg, North Carolina

2012-2013. Assistant Professor, Department of Mathematical Sciences, United States Military Academy.

2011-2012. Instructor, Department of Mathematical Sciences, United States Military Academy.

Courses taught:

MA205 Calculus II

MA206 Probability and Statistics for Scientists and Engineers

MX400 Officership

MA489 Advanced Independent Study - Bayesian Statistics

Director: Center for Data Analysis and Statistics responsible for providing statistical consultation and faculty education for the United States Military Academy.

2007-2009. Intelligence Officer, SOCOM, Military District of Washington.

2004-2007. Intelligence Officer 3-75^{th} Ranger Regiment, Fort Benning, Georgia.

2003-2004. Platoon Leader 102^{nd} Military Intelligence Battalion, Camp Essayons, South Korea.

Professional Affiliations

American Statistical Association (2010-)

Institute of Mathematical Statistics (2018-)

Publications

Refereed Journal Articles

(* Indicates student and/or research assistant coauthor)

Clark, N., Dixon, P., "A Class of Spatially Correlated Self-Exciting Statistical Models", *Spatial Statistics*, Accepted, Jan 2021.

Clark, N., Dabkowski, M., Driscoll, P., Kennedy, D., Kloo, I, *Shi, H. "Empirical Decision Rules for Improving the Uncertainty Reporting of Small Sample System Usability Scale Scores", *International Journal of Human-Computer Interaction*, Accepted, Dec 2020.

*Humphries, S., *Parker, T., Jonas, B., Adams, B., **Clark, N.** "A Dual U-Net Algorithm for Automating Feature Extraction From Satellite Imagery", *Journal of Defense Modeling and Simulation*, Accepted, Nov 2020.

Clark, N., Macdonald, B. , Kloo, I. "A Bayesian Adjusted Plus-Minus Analysis for the Esport Dota 2", *Journal of Quantitative Analysis in Sports* **16**(4), 325-341 ,2020.

Thomas, D., Sturdivant, R., Dhurandhar, N., Debroy, S., **Clark, N.** "A primer on COVID-19 Mathematical Models", *Obesity* **28**(8), 1375-1377, 2020.

Cummiskey, K., Adams, B., Pleuss, J., Turner, D., **Clark, N.**, Watts, K. "Causal Inference in Introductory Statistics Courses", *Journal of Statistical Education* **28**(1), 22-8, 2020.

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

Blanchong. J, Anderson, C., **Clark. N**, Klaver, R., Plummer, P., Cox, M., McAdoo, C., Wolff, P. "Respiratory Disease, Behavior, and Survival of Mountain Goat Kids" *Journal of Wildlife Management and Wildlife Monographs* **82**(6), 1243-1251, 2018.

Clark, N., Dixon, P. "Modeling and Estimation for Self-Exciting Spatio-Temporal Models of Terrorist Activity" *The Annals of Applied Statistics* **12**(1), 633-653, 2018.

Winner of Student Paper Competition sponsored by the Section for Statistics in National Defense and Security (SNDS) of the American Statistical Association, 2017.

Rovira, R., Mackie, R., **Clark, N.**, Squire, P., Hendricks, M., Pulido, A., Greenwod, P."A Role for Attention During Wilderness Navigation: Comparing Effects of BDNF, KIBRA, and CHRNA4."*Neuropsychology.* **30**(6), 2016.

Waterman B., Cameron K., Hsiao M., Langston J., **Clark, N.**, Owens, B., "Trends in the Diagnosis of SLAP Lesions in the US Military," *Knee Surgical Sports Trauma Arthrosc.*December 2013.

Clark, N., Jackson, J., "Development of Nonlinear Mixed-Effects Models for Assessing Effectiveness of Spending in Iraq," *Military Operations Research* **18**(1), 2012.

Presentations

Invited

Clark, N.,Macdonald,B. Kloo, I. *Analyzing Player Performance in eSports*, New England Symposium on Statistics in Sports, Harvard University, Sep 2019.

Clark, N. *Educating Data Literate Army Leaders*, DataWORKS Conference, Springfield, VA, March 2019.

Clark, N., Dixon, P. *Self-exciting spatio-temporal statistical models for count data with applications to modeling the spread of violence*, National Security Agency, Ft. Meade, MD, Feb 2018.

Contributed

Clark, N., Kaiser, M., Dixon, P. *A Class of Spatially Correlated Auto-Regressive Models for Count Data*, Joint Statistical Meetings, Vancouver, Canada, 2018.

Clark, N., Dixon, P. *Modeling and Estimation for Self-Exciting Spatio-Temporal Models of Terrorist Activity*, Joint Statistical Meetings, Baltimore, MD 2017.

Clark, N., Jackson, J. *Using Hidden Markov Models to Assess Effectiveness of Reconstruction Spending in Iraq*, American Statistical Association Conference on Quantitative Methods in Defense and National Security, Boston, MA 2012.

Clark, N., Jackson, J. *Development of Non-Linear Mixed Effects Models for Assessing Spending in Iraq*, Institute for Operations Research and the Management Science Military Applications Section Conference, Monterrey, CA 2012.

Eastburg, C., Thiery, B., Clark, N *Assessing CERP Spending in Iraq*, 19^{th} Army Conference on Applied Statistics, Annapolis, MD 2011.

Clark, N *An Analysis of Highly Collinear Crime Data*, 19^{th} Army Conference on Applied Statistics, Annapolis, MD 2011.

Grants/External Funding

Current Research

SOCOM, PI

Automated Feature Extraction

2020-2021: $50,000.00

CCDC Armaments Center, PI

Machine Learning to Support Extended Range Cannon Artillery

2019-2020: $60,000.00

Army Research Laboratory, PI

Predicting military performance and outcomes from 3D body shape imaging and accelerometry and detecting change points in performance based off of biomonitors

2019-2020: $20,868.00

Completed Research

GEN Omar N. Bradley Research Fellowship in Mathematics, 2017.
Spatio-Temporal Statistical Modeling of Violence, $2,000.

Cadets Advised

Current

Madison Teague (Honors Thesis).

Lead Advisor

Modeling and Population Estimation of COVID-19 in the Corps of Cadets

2020-2021

Reilly McGinnis (Honors Thesis).

Lead Advisor

Spatio-Temporal Modeling of COVID in US

2020-2021

Karlee Scott (Honors Thesis).

Lead Advisor

Functional Data Ananalysis of Aircraft Flight Patterns
2020-2021

Charlie Harrington (Honors Thesis).

Lead Advisor
Predictive Modeling of Aircraft Flight Patterns
2020-2021

Graduated

Trevor Parker (Honors Thesis).

Lead Advisor
Using Machine Learning to Conduct Automated Feature Extraction
2019-2020

Samuel Humphries (Honors Thesis).

Lead Advisor
Using Machine Learning to Conduct Automated Feature Extraction
2019-2020

James Pruneski (Honors Thesis).

Co-Advisor
Using Machine Learning to Predict Health Outcomes Following HSCT
2018-2019

Bridget Wilby (Honors Thesis).

Co-Advisor
Analysis of the Cadet Foreign Travel Medical Screening Process
2018-2019
Hollis Award Winner

Evan Szablowski (Honors Thesis).

Co-Advisor
Data Analytics of Cadet Academy Performance
2012-2013

Professional Service

Associate Editor, *Military Operations Research Journal*, 2020 - Current.

Chair, Best Paper Competition, Statistics in Defense and National Security Student Paper Competiton, 2019-2021.

Member, Data Analytics Advisory Panel, West Point Association of Graduates, 2019 - Current.

Member, Technical Program Committee, DATAWorks Conference, 2020.

Advisor, Distributed Computing Colloquium (2019-2020)

Resulted in 12 Officers designated as "Army Data Scientists"

Session Chair, Joint Statistics Meetings, Vancouver (2018).

Judge, Best Paper Competition, Statistics in Defense and National Security Student Paper Competition, 2018.

Established and Led Faculty Colloquium on Bayesian Statistics (2012, 2018).

Established and Led Faculty Colloquium on Data Mining (2013).

Session Chair, ARL-USMA Technical Symposium, Atlantic City (2011).

Peer Reviewer, *Journal of Quantitative Analysis in Sports, Public Health Nutrition, Bayesian Analysis, PLOS One, JRSS-A*

Cadet Service

Officer Representative, Army West Point Track and Field, 2018 - Current.

PL300 Mentor - 5 Cadets

SLDP-Honor Mentor - 2020

Cadet Leader Development Training - Platoon mentor, 2012, 2019.

Academic Counselor - 7 Cadets

Statistical Consulting

Director, Center for Data Analysis and Statistics (CDAS), 2012-2013, 2018-Current.

Clients: SOCOM, Army Future's Command, JIDO, USMA G-5, West Point academic departments (4), Director of Admissions (CEER Study), Keller Army Community Hospital (orthopedic), outside Army Agencies, member of Highland Falls community.

Last updated: January 14, 2021

Nicholas J. Clark