Ross J. Gore

Research Associate Professor	**Phone:** 703.887.8060
Virginia, Modeling Analysis and Simulation Center (VMASC)	**Fax:** 757.686.6214
Old Dominion University	**Email:** rgore@odu.edu
1030 University Blvd, Suffolk, VA 23435	**Website:** https://rossgore.github.io/

Education

Ph.D., Computer Science, University of Virginia,   Charlottesville, VA.

M.S., Computer Science, University of Virginia,   Charlottesville, VA.

B.S.,   Computer Science, University of Richmond, Richmond,   VA.

Professional Experience

Research Assistant Professor, Virginia Modeling, Analysis, and Simulation Center (VMASC), Old Dominion University, Suffolk, VA, 2014-Present

- Lead research on data science and predictive analytics in areas ranging from understanding the obesity epidemic in the USA to religiosity and extremism in the Middle East. In total this work has yielded $495,342 in funded research as principal investigator.

- Co-led researcher by extracting useful information from new and diverse data sources to help inform decision making in domains from cyber security (understanding Advanced Persistent Cyber Threats), medical (studying the efficacy of game-based training for critical care personnel in the armed forces), emergency services (providing risk analysis for bioterror threats) and Department of Defense (DoD) applications (developing algorithms to effective search databases to facilitate the United States Navy establishing internal partnering agreements with ally nations). In total with work has yielded $3.9M in funded research as co-principle investigator.

- Conduct research on simulation validation and debugging. Support simulation platforms are testing grounds for these methods with partial funding from principle investigator and co-principle investigator efforts (7 journal publications, 14 peer-reviewed conference papers and 3 book chapters).

Visiting Assistant Professor, Computer Science Department. Gettysburg College. Gettysburg, PA, 2013-2014

- Taught computer science courses and supervise research for undergraduate students (3 courses covering 6 section taught, 2 undergraduate research projects supervised).

Post-doctoral Research Associate, VMASC, Old Dominion University, Suffolk, VA, 2012 - 2013

- Researched composability, interoperability, debugging, verification and validation supporting ongoing funded projects.

❑ Developed software to facilitate simulation debugging verification and validation used extensively on funded projects.

❑ Researched the epistemological nature of modeling and simulation.

Teaching Experience (Gettysburg College)

❑ Spring 2014 – CS 103: Introduction to Computing

❑ Fall 2013 – CS 111: Introduction to Computer Science I

❑ Fall 2013 – CS 216: Data Structures

Advising Experience

Doctoral Thesis: Member

Coleman, Evan. Advisor: Masha Sosonkina. Completed Spring 2019. *Resilience for Asynchronous Iterative Methods for Sparse Linear Systems*. Computational Modeling and Simulation Engineering Department. Old Dominion University, Norfolk, VA.

Nwala, Alexander. Advisor(s): Michael Nelson and Michele Wiegle. (Graduated: Summer 2020). *Bootstrapping Web Archive Collections from Micro-collections in Social Media*. Computer Science Department. Old Dominion University, Norfolk, VA.

McCoy, Corren. Advisor(s): Michael Nelson and Michele Wiegle. (Graduated: December 2022). *Cyber Vulnerability Exploit Prediction*. Computer Science Department. Old Dominion University, Norfolk, VA.

Students Mentored under Funded Research Projects as PI or Co-PI

Grygorian, Gayane. Engineering Management and Systems Engineering Department. Old Dominion University, Norfolk, VA.

Vernon-Bido, Daniele. Computational Modeling and Simulation Engineering Department. Old Dominion University, Norfolk, VA.

Lynch, Christopher. Computational Modeling and Simulation Engineering Department. Old Dominion University, Norfolk, VA. Graduated 2019.

Kavak, Hamdi, Computational Modeling and Simulation Engineering Department. Old Dominion University, Norfolk, VA. Graduated 2019.

O'Brien, Kevin (undergradaute). Computer Science Department. Old Dominion University, Norfolk, VA.

Zamponi, Virginia. Computational Modeling & Simulation Engineering Dept. Old Dominion University, Norfolk, VA.

Research Grants (Awarded)

PI

IRAD: Digital Neighborhoods (2021-2022). R. Gore (VMASC/ODU, PI). With: J. Shull (VMASC/ODU, Co-PI), A. Nielsen (VMASC/ODU, Co-PI), C. Jordan (VMASC/ODU, Co-

PI) and C. Lynch (VMASC/ODU, Co-PI). $467,800. 25% of Credit: $116,950

IPOET (2018-2019). **R. Gore** (VMASC/ODU, PI). With: S. Diallo (VMASC/ODU, Co-PI). Camber Corporation, $150,000.00. 20% of Credit: $30,000

Coalition Interoperability Readiness Products (2018-2018). **R. Gore** (VMASC/ODU, PI). With: S. Diallo (VMASC/ODU, Co-PI) and B. Cvijetic (VMASC/ODU, Co-PI). Camber Corporation, $45,000. 34% of Credit: $15,300.

Proactive Cyber Security Data-Driven Assessment Tool: Phase 3 (2018-2018). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI) and M. Croll (VMASC/Co-PI). G2 Ops, Inc. $12,000. 25% of Credit: $3,000.

Modeling Religion in Norway (2017-2019). **R. Gore** (VMASC/ODU, PI). With: S. Diallo (VMASC/ODU, Co-PI) and A. Barraco (VMASC/ODU Co-PI). University of Agder, $252,900. 40% of Credit: $101,160.

Proactive Cyber Security Data-Driven Assessment Tool: Phase 2 (2017-2018). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI) and M. Croll (VMASC/Co-PI). G2 Ops, Inc. $35,000. 34% of Credit: $11,900.

Norfolk Board of Inspection and Survey Modeling and Simulation Training (2016-2016). **R. Gore** (VMASC/ODU, PI). NAVSUP Fleet Logistics Center, $9,744. 100% of Credit: $9,744.

Proactive Cyber Security Data-Driven Assessment Tool (2016-2017). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI). G2 Ops, Inc. $20,398. 50% of Credit: $10,199.

Co-PI

New IPOET and PRIOR (2020-2021). A. Nielsen (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Camber Corporation, $197,172.24. 28% of Credit: $54,476.20.

IRAD: TRUST (2020-2021). K. Rechowiz (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Old Dominion University, $25,470.00. 25% of Credit: $6,367.50.

IRAD: ITS Design (2020-2021). K. Rechowiz (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Old Dominion University, $ 232,142.00. 20% of Credit: $ 46,428.40.

Cyber Risk and Resilience Analytics (2020-2021). S. Shetty (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Frontier Technology Inc., $102,000.00. 10% of Credit: $10,200.00.

Automation Tools and Analytics Courses for the Naval Shipyard Project Extension (2019-2023). A. Collins (EMSE/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Naval Sea Systems Command, $663,325. 5% of Credit: $33,166.25.

Navy International Program Office (NIPO) International Program Opportunity Engagement for Technology (IPOET) (2019-2020). S. Diallo (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Camber Corporation, $394,344.47. 50% of Credit: $197,172.24

Automation Tools and Analytics Courses for the Naval Shipyard (2018-2022). A. Collins (EMSE/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Naval Sea Systems Command, $943,899.00. 10% of Credit: $94,389.90

Mitigation Optimization & Net Assessment Decision Support System (2017-2018). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Battelle Corp, $104,000. 40% of Credit: $41,600.

Extension of Role 2 Assessment Validation (2017-2018). A. Parodi (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Old Dominion University, $43,824. 40% of Credit: $17,529.60.

ODU UVA GMU Independent Evaluation for FIRSTNET State Plan (2017-2017). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Virginia Department of Emergency Management, $50,000. 50% of Credit: $25,000.

Machine Process Monitoring (2016-2016). K. Rechowicz (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Commonwealth Center for Advanced Manufacturing (CCAM), $ 64,000. 40% of Credit: $25,600.

Mitigation Optimization & Net Assessment (MONA) Decision Support System (2016-2016). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Battelle Corp, $250,000. 50% of Credit: $125,000.

Center of Excellence in Cyber Security (2015-2019). J. Padilla (VMASC/ODU, PI). With: S. Diallo (VMASC/ODU, Co-PI), **R. Gore** (VMASC/ODU, Co-PI) and A. Barraco (VMASC/ODU, Co-PI). Norfolk State University, $984,352. 25% of Credit: $ 246,088.

Development of Validated Trauma Knowledge Assessment for Role 2 And 3 Capabilities: Adult Nursing and Medical/Surgical Care (2014-2015). A. Parodi (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). The Geneva Foundation, $427,999. 25% of Credit: $106,999.75.

National Defense University, Information Resources Management College Systems Dynamics Modeling Support (2014-2015). S. Diallo (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). NAVSUP Fleet Logistics Center Norfolk, $35,243. 50% of Credit: $17,621.50.

NCCMMS Year 4 Funding (2014-2015). J. Sokolowski (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), B. Giles (VMASC/ODU) and H. Garcia (VMASC/ODU). Old Dominion University, $70,000. 25% of Credit: $17,500.

Research Grants (Pending)
PI
None.
Co-PI

Covid 19 Forecasting and Analytic Support to VDEM and VDH (2021). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI) and C. Lynch (VMASC/ODU, Co-PI), Virginia Department of Emergency Management (VDEM). $ 88,200.00. 33% of Credit $29,106.

iPOET Supplemental Funds (2021). A. Nielsen (VMASC/ODU, PI). With **R. Gore** (VMASC/ODU, Co-PI), Camber Corporation. $20,000.00. 10% of Credit: $ 2,000.

Cyber Tool Suite and Modernization (2021). S. Shetty (VMASC/ODU, PI). With: P. Foytik (VMASC/ODU, Co-PI) and **R. Gore** (VMASC/ODU, Co-PI), Frontier Technology Inc. $123,479.00. 10% of Credit $12,347.90.

Research Grants (Not Awarded)
PI
Triangulating Unbelief: A Mixed-Method, Multidimensional, Cross-Cultural Study (2018). **R.**

Gore (VMASC/ODU, PI). The University of Kent. $18,275. 100% of Credit: $ 18,275.

TRASIM: The Domestic Threat Risk Assessment (2018). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI). Vectrona, LLC. $109,468. 50% of Credit: $54,734.

Terrorism Risk Assessment Simulation, TRASIM, Modeling System (2017). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI). Decision Strategies, LLC. $135,000.00. 50% of Credit: $ 67,500.

Terrorism Risk Assessment Simulation, TRASIM, Modeling System (2017). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI). Center for Innovative Technology. $ 41,157. 34% of Credit: $13,993.38.

Situational Awareness System (2016). **R. Gore** (VMASC/ODU, PI). MYMIC LLC. $75,000.00. 100% of Credit: $ 75,000.

Improving Decision Making Through Real-Time Dashboards: An EMS Case Study (2016**). R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI). IBM. $ 20,000. 50% of Credit: $10,000.

Terrorism Risk Assessment Simulation, TRASIM, Modeling System (2016). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI). Decision Strategies, LLC. $135,000.00. 50% of Credit: $ 67,500.

Analyzing Operational & Clinical Care Emergency Medical Service Data in Portsmouth, VA (2016). **R. Gore** (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI). IBM. $ 20,000. 50% of Credit: $10,000.

I-MATR: Individual-Marine Tailored Resilience Framework (2015). **R. Gore** (VMASC/ODU, PI) and A. Barraco (ODU/VMASC Co-PI). Office of Naval Research. $510,00. 100% of Credit: $510,000.

SCH: EXP: A Person-Centered Study Research Approach (2015). **R. Gore** (VMASC/ODU, PI). With: M. Seth-Chandra (Community & Environmental Health / ODU, Co-PI). National Science Foundation. $370,483. 50% of Credit: $185,241.50

Co-PI

Analysis of Insurance Data From Weather Events (2019). B. Ezell (VMASC/ODU-PI). With: **R. Gore** (VMASC/ODU, Co-PI). Vectrona, LLC. $90,106. 50% of Credit: $45,053.

Improving User Accessibility and Interactivity of KPI Standard E3096-17 With Reactive Web (2019). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). National Institute of Standards and Technology. $115,119. 50% of Credit: $57,559.50.

Support to MI Technical Solutions on STTR A18BT010: Mitigation of Ransomware (2018). R. M. Robinson (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI) and A. Barraco (VMASC/ODU, Co-PI). MI Technical Solutions. $75,000. 33% of Credit: $24,750.

Estimating the Effect of Active Transportation on Reducing the Prevalence of COPD At Census Tract Level (2018). C. Cornelius (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). Urban Institute. $100,000. 30% of Credit: $30,000.

KPI Standards Web-Based Tool (2018). B. Ezell (ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI). National Institute of Standards and Technology. $99,944.00. 50% of Credit: $ 49,972.

Maritime System Critical Infrastructure Dependency Tool (2018). J. Behr (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI), **R. Gore** (VMASC/ODU, Co-PI), B. Giles (VMASC/ODU, Co-PI), P. Foytik (VMASC/ODU, Co-PI) and C. Jordan (VMASC/ODU, Co-PI). Virginia Department of Emergency Management. $475,000. 10% of Credit: $47,500.

Impacts of Social Behavior on Distributed Energy: A Multi-Disciplinary, Hybridized Modeling and Simulation Approach (2017). A. Collins (EMSE/ODU, PI). With: **R. Gore**, (VMASC/ODU, Co-PI), P. Moses (Engineering Technology/ODU, Co-PI) and S. Marsillac (ECE/ODU), C. Jordan (VMASC/ODU, Co-PI) and P. Foytik (VMASC/ODU, Co-PI). National Science Foundation. $377,798. 20% of. Credit: $75,559.60.

Risk Assessment Techniques for Understanding and Quantifying Threats to Systems and Networks (2017). S. Shetty (VMASC/ODU, PI). With: **R. Gore**, (VMASC/ODU, Co-PI) and J. Padilla (VMASC/ODU, Co-PI). Naval Surface Weapons Center. $450,000. 33% of. Credit: $148,500.00.

Center for Advanced Analytics and Decision Support (CAADS) (2017). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), L. Flier (ECON/ODU, Co-PI), P. Hester (ENMA/ODU, Co-PI), E. Fryedenlund (VMASC/ODU, Co-PI), R.M. Robinson (VMASC/ODU, Co-PI), B. Giles (VMASC/ODU,Co-PI) and A. Gheorghe (ENMA/ODU, Co-PI). US Department of Homeland Security. $ 19,803,818. 15% of. Credit: $ 2,970,572.70.

SCC-PLANNING: Improving Travel Time Reliability in Hampton Roads Through Integrated Data Driven Modeling, Training and Optimization (2017). S. Shetty (ODU, PI). With: T. Nadeem (CS/ODU, Co-PI), **R. Gore** (VMASC/ODU, Co-PI), R. M. Robinson (VMASC/ODU, Co-PI), H. Yang (CMSE/ODU, Co-PI), M. Cetin (TRI/ODU, Co-PI) and K. Iftekharuddin (ECE/ODU, Co-PI). National Science Foundation. $100,000. 10% of Credit: $10,000.

CI-NEW: DRIVESENSE: A Community Resource for Large-Scale Fine-Grained Smartphone-Based Traffic (2017). T. Nadeem (CS/ODU, PI). With: M. Cetin (TRI/ODU, Co-PI) and **R. Gore** (VMASC/ODU, Co-PI). National Science Foundation. $ 751,945. 33% of Credit: $ 248,141.85.

Exploring Valid Replacement of Human Coders with Machine Learning Coders with Algorithms and an Application to Mental Health Research (2017). R. Landers (PSYC/ODU, PI). With: J. Paulson (PSYC/ODU, Co-PI) and **R. Gore** (VMASC/ODU, Co-PI). National Science Foundation. $145,910. 25% of Credit: $36,477.50.

Utilizing Bayesian Network Modeling to Map the Characteristics of Sexual Assaults (2017). C. Cornelius (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI) and **R. Gore** (VMASC/ODU, Co-PI). US Department of Justice. $361,178. 30% of Credit: $108,353.40.

Maritime System Critical Infrastructure Dependency Tool (2017). J. Behr (VMASC/ODU, PI). With: B. Ezell (VMASC/ODU, Co-PI), **R. Gore** (VMASC/ODU, Co-PI), B. Giles (VMASC/ODU, Co-PI), P. Foytik (VMASC/ODU, Co-PI) and C. Jordan (VMASC/ODU, Co-PI). Virginia Department of Emergency Management. $475,000. 10% of Credit: $47,500.

Legislated Limited Scope of Healthcare Professional Practices and the Impact on the Commonwealth of Virginia (2016). A. Parodi (VMASC/ODU, PI). With: **R. Gore**

(VMASC/ODU, Co-PI), T. Haney (Nursing/ODU), R. Poston (Nursing/ODU), K. Kott (Health Sciences/ODU) and J. Flores (Dental Hygiene/ODU). Commonwealth Health Research Board. $ 200,000. 30% of Credit: $ 60,000.

A FICO Cybersecurity Score for Small Businesses (2016). B. Ezell (ODU-PI). With: **R. Gore** (VMASC/ODU, Co-PI). IBM. $ 20,000. 50% of Credit: $ 10,000.

Impacts of Social Behavior on Distributed Energy: A Multi-Disciplinary, Hybridized Modeling and Simulation Approach (2016). A. Collins (EMSE/ODU, PI). With: **R. Gore**, (VMASC/ODU, Co-PI), P. Moses (Engineering Technology/ODU, Co-PI) and S. Marsillac (ECE/ODU). National Science Foundation. $ 332,853. 25% of. Credit: $ 83,213.25.

CI-NEW: DRIVESENSE: A Community Resource for Large-Scale Fine-Grained Smartphone-Based Traffic (2016). T. Nadeem (ODU, PI). With: M. Weigle (ODU, Co-PI) and **R. Gore** (VMASC/ODU, Co-PI). National Science Foundation. $779,643. 33% of Credit: $257,282.19.

CRISP TYPE 1: Assessing Interdependent Critical Infrastructure and Community Resilience Through Social Media (2016). R. M. Robinson (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), B. Ezell (VMASC/ODU, Co-PI) and E. Fryedenlund (VMASC/ODU, Co-PI). National Science Foundation. $500,000. 25% of Credit: $125,000.

Smart Cities for Heart (Healthy, Equity and Resilience Transportation) (2016). R. M. Robinson (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), E. Fryedenlund (VMASC/ODU, Co-PI), A. Collins (EMSE/ODU, Co-PI) and B. Giles (VMASC/ODU, Co-PI).US Dept. of Transportation. $1,463,728. 20% of Credit: $292,745.60.

Port of the Future (2016). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), E. Fryedenlund (VMASC/ODU, Co-PI) and M. Croll (VMASC/ODU, Co-PI). University of Houston. $426,173. 25% of Credit: $106,543.25.

Analyzing Illegal Flows of Drugs and Undocumented Migrants Through the Detection Incident Chain Assessment Framework (DEICAF) (2016). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), E. Fryedenlund (VMASC/ODU, Co-PI) and M. Croll (VMASC/ODU, Co-PI). University of Houston. $460,000. 25% of Credit: $115,000.

Understanding the Motivations for Mass Migration: Modeling Breakdowns in Community Resiliency for Policy Interventions in Countries of Origin (2016). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), E. Fryedenlund (VMASC/ODU, Co-PI). University of Houston. $100,000. 30% of Credit: $30,000.

Advanced Modeling and Simulation For 21st Century Migration, Immigration and Refugee Challenges (2016). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), E. Fryedenlund (VMASC/ODU, Co-PI) and P. Foytik (VMASC/ODU, Co-PI). University of Houston. $457,037. 25% of Credit: $114,259.25.

Securely and Efficiently Connecting Cargo to People (2016). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), E. Fryedenlund (VMASC/ODU, Co-PI) and M. Croll (VMASC/ODU, Co-PI). University of Houston. $ 451,379. 25% of Credit: $112,844.75.

Cyber Risk to Transportation Control Systems (TCS) (2015). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), J. Padilla (VMASC/ODU, Co-PI), M. Robinson

(VMASC/ODU, Co-PI) and B. Madan (CMSE/ODU, Co-PI). National Science Foundation. $858,647. 20% of. Credit: $171,729.40.

CI-NEW: DRIVESENSE: A Community Resource for Large-Scale Fine-Grained Smartphone-Based Traffic (2015). T. Nadeem (ODU, PI). With: M. Weigle (ODU, Co-PI), **R. Gore** (VMASC/ODU, Co-PI). National Science Foundation. $745,506.00. 33% of Credit: $246,016.98.

Cyber Risk to Transportation Control Systems (2015). B. Ezell (VMASC/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), J. Padilla (VMASC/ODU, Co-PI), M. Robinson (VMASC/ODU, Co-PI), P. Foytik (VMASC/ODU, Co-PI) and B. Madan (CMSE/ODU, Co-PI). National Science Foundation. $ 428,884. 16% of. Credit: $68,621.44.

Development of Validated Trauma Knowledge Assessment Instruments for Role 2 And 3 Capabilities: Adult Nursing and Medical/Surgical Care (2015). A. Parodi (VMASC/ODU. PI). With: **R. Gore** (VMASC/ODU, Co-PI), A. Barraco (VMASC/ODU, Co-PI). The Geneva Foundation. $427,999. 30% of Credit: $128,399.70.

An Exploratory Study on the Impact of Cloud-based Simulation Learning Environments on Simulation Use and Creation as Part of STEM+C Education (2015). J. Padilla (VMASC/ODU, PI). With. **R. Gore** (VMASC/ODU, Co-PI), H. Garcia (VMASC/ODU, Co-PI) and A. Barraco (VMASC/ODU, Co-PI). National Science Foundation. $ 621,170. 25% of Credit: $ 155,292.50.

DHHS IDIQ Rate Submission (2015). A. Collins (EMSE/ODU, PI). With: **R. Gore** (VMASC/ODU, Co-PI), B. Ezell (VMASC/ODU, Co-PI) and S. Weinberg (VMASC/ODU, Co-PI). US Department of Health & Human Services. $ 6,311,050. 25% of Credit: $ 1,577,762.50.

Journal Publications

Key: Scopus CiteScore (CS) / Google Cite Count (GCC) as of May 13, 2021
CS & GCC of all journal pubs – (Mean/Median) – CS (if provided): (4.22/4.20); GCC: (13.61/7.00)
CS & GCC of journal pubs w/ **R. Gore** as 1st author – (Mean/Median) - CS (if provided): (4.57/4.4); GCC: (18.11/10.00)

(* graduate students at time of publication)

Lynch CJ and **Gore R**. Short-Range Forecasting of COVID-19 During Early Onset at County, Health District, and State Geographic Levels Using Seven Methods: Comparative Forecasting Study. (2021) *Journal of Medical Internet Research (2020 CiteScore 3.9),* 23.3: e24925, https://doi.org/10.2196/24925, Google Scholar Cite Count: 1.

Lynch CJ and **Gore R**. Application of one-, three-, and seven-day forecasts during early onset on the COVID-19 epidemic dataset using moving average, autoregressive, autoregressive moving average, autoregressive integrated moving average, and naïve forecasting methods. (2021). *Data in Brief (2020 CiteScore 1.5),* 35: 106759, https://doi.org/10.1016/j.dib.2021.106759, Google Scholar Cite Count: 1.

Kavak H, Padilla JJ, Vernon-Bido D, Diallo SY, **Gore R** and Shetty S. (2021). Simulation for

cybersecurity: state of the art and future directions. *Journal of Cybersecurity (2020 CiteScore 4.3),* 7(1), https://doi.org/10.1093/cybsec/tyab005 , Google Scholar Cite Count: 0.

Boshuijzen-van Burken C, **Gore R**, Dignum F, Royakkers L, Wozny P and Shults FL. (2020). Agent-based modelling of values: The case of value sensitive design for refugee logistics. *JASSS: Journal of Artificial Societies and Social Simulation (2020 Citescore 4.1)*, 23(4). https://doi.org/10.18564/jasss.441. Google Scholar Cite Count: 1.

Collins AJ, Jordan CA, Robinson RM, Cornelius C, and **Gore R**. (2019). Exploring good cycling cities using multivariate statistics. *Environment Systems and Decisions (2020 Scimago Journal Rank 0.607)*, https://doi.org/10.1007/s10669-019-09753-z. Google Scholar Cite Count: 1

Lemos CM, **Gore R**, and Lessard-Phillips L. (2019). A network agent-based model of ethnocentrism and intergroup cooperation. *Quantity and Quality (2020 Scimago Journal Rank 0.421)*, https://doi.org/10.1007/s11135-019-00856-y. Google Scholar Cite Count: 3

Lemos CM, **Gore R**, Puga-Gonzalez I and Shults FL. (2019). Dimensionality and factorial invariance of religiosity among Christians and the religiously unaffiliated: A cross-cultural analysis based on the International Social Survey Programme. *Public Library of Science (PLoS) ONE (2020 Citescore 5.2)*, 14(5): e0216352. https://doi.org/0.1371/journal.pone.0216352. Google Scholar Cite Count: 5

Wood CM, Diallo S, **Gore R** and Lynch CJ*. (2018). Trance, Dissociation, and Shamanism: A Cross-Cultural Model. *Journal of Cognition and Culture (2020 Scimago Journal Rank 0.349)*, 18(5). https://doi.org/10.1163/15685373-12340042. Google Scholar Cite Count: 0

Shults FL, **Gore R** and Wildman W (2018). Why do the godless prosper? Modeling cognitive and coalitional mechanisms that promote atheism. *Psychology of Religion and Spirituality (2020 Citescore 4.0)*, 10(3) 218–228. https://doi.org/10.1037/rel0000198. Google Scholar Cite Count: 15

Padilla J, Diallo S, Lynch CJ*, and **Gore R**. (2018). Observations on the practice and profession of modeling and simulation: a survey approach. *Simulation: Transactions of the Society for Modeling and Simulation International (2020 Citescore 1.61)*, 94(6) 493-506. https://doi.org/10.1177/0037549717737159. Google Scholar Cite Count: 20

Gore R, Lemos CM, Shults FL, and Wildman W. (2018). Forecasting changes in religiosity and existential security with an agent-based model. *Journal of Artificial Societies and Social Simulation (JASSS). (2020 Citescore 4.1)*, 21(1) 4. https://doi.org/ 10.18564/jasss.3596. Google Scholar Cite Count: 39

Shults FL, Lane J, Wildman W, Diallo, S, Lynch, CJ* and **Gore R** (2018). Modelling terror management theory: computer simulations of the impact of mortality salience on religiosity. *Religion, Brain and Behavior (2020 Scimago Journal Rank 0.513)*, 8(1) 77-100. https://doi.org/10.1080/2153599X.2016.1238846. Google Scholar Cite Count: 50

Gore R, Diallo S, Padilla J and Ezell B. (2018). Assessing cyber-incidents using machine learning. *International Journal of Information and Computer Security (2020 Scimago Journal Rank 0.144)*, 10(4), 341-360. https://doi.org/10.1504/IJICS.2018.095298. Google Scholar Cite

Count: 1

Padilla J, Kavak H*, Lynch C*, **Gore R**, and Diallo S. (2018). Temporal and spatiotemporal investigation of tourist attraction sentiment on Twitter. *Public Library of Science (PLoS) ONE (2020 Citescore 5.2)*, 13(6): e0198857. https://doi.org/10.1371/journal.pone.0198857. Google Scholar Cite Count: 36

Shults FL, **Gore R**, Wildman W, Lane J, Lynch, CJ*, and Toft M. (2018). A generative model of the mutual escalation of anxiety between religious groups. *Journal of Artificial Societies and Social Simulation (JASSS). (2020 Citescore 4.1)*, 21(4) 4. https://doi.org/ 10.18564/jasss.3840. Google Scholar Cite Count: 29

Diallo S, **Gore R**, Padilla J, Kavak H*, and Lynch CJ* (2017). Towards a World Wide Web of Simulation. *The Journal of Defense Modeling and Simulation (2020 Scimago Journal Rank 0.162)*, 14(2), 159-170. https://doi.org/10.1177/1548512915621974. Google Scholar Cite Count: 5

Gore R, Padilla J, and Diallo S. (2017). Markov Chain modeling of cyber threats. *The Journal of Defense Modeling and Simulation (2020 Scimago Journal Rank 0.162),* 14(3) 233-244. https://doi.org/10.1177/1548512916683451. Google Scholar Cite Count: 11

Gore R, Diallo S, Lynch CJ* and Padilla J. (2017). Augmenting Bottom-Up Metamodels with Predicates. *JASSS: The Journal of Artificial Societies and Social Simulation (2020 Citescore 4.1)*, 20(1), 4. https://doi.org/ 10.18564/jasss.3240. Google Scholar Cite Count: 15

Padilla J, Diallo S, Kavak H*, Sahin O*, Sokolowski J, and **Gore R**. (2016). Semi-automated Initialization of Simulations: An Application to Healthcare. *The Journal of Defense Modeling and Simulation (2020 Scimago Journal Rank 0.162)*, 13(2) 171-182. https://doi.org/10.1177/1548512914565503. Google Scholar Cite Count: 5

Diallo S, Padilla J, Papelis Y, **Gore R**, and Lynch, CJ* (2016). Content analysis to classify and compare Live, Virtual, Constructive simulations and System of Systems. *The Journal of Defense Modeling and Simulation (2020 Scimago Journal Rank 0.162)*, 13(4), 367-380. https://doi.org/10.1177/1548512915621972. Google Scholar Cite Count: 6

Diallo S, Lynch CJ*, **Gore R**, and Padilla JJ. (2016). Emergent behavior identification within an agent- based model of the Ballistic Missile Defense System using statistical debugging. *The Journal of Defense Modeling and Simulation (2020 Scimago Journal Rank 0.162)*, 13(3), 275-289. https://doi.org/10.1177/1548512915621973. Google Scholar Cite Count: 6

Diallo S, Lynch CJ*, **Gore R** and Padilla J. (2016). Identifying key papers within a journal via network centrality measures. *Scientometrics (2020 Citescore 5.6),* 107(3), 1005-1020. https://doi.org/10.1007/s11192-016-1891-8. Google Scholar Cite Count: 17

Diallo S, **Gore R**, Lynch CJ*. (2016). Formal methods, statistical debugging and exploratory analysis in support of system development: Towards a verification and validation calculator tool. *International Journal of Modeling, Simulation, and Scientific Computing (2020 Scimago Journal Rank 0.202),* 7(1), 1641001. https://doi.org/10.1142/S1793962316410014. Google Scholar Cite Count: 11

Gore R, Diallo S, and Padilla J. (2016). Classifying modeling and simulation as a scientific discipline. *Scientometrics (2020 Citescore 5.6)*, 109(2), 615-628. https://doi.org/10.1007/s11192-016-2050-y. Google Scholar Cite Count: 3

Diallo S, **Gore R**, Barraco A, Padilla J, and Lynch CJ* (2016). Quantitative performance metrics for evaluation and comparison of middleware interoperability products. *The Journal of Defense Modeling and Simulation (2020 Scimago Journal Rank 0.162)*, 13(2), 161-169. https://doi.org/10.1177/1548512915570143. Google Scholar Cite Count: 2

Gore R, Diallo S, and Padilla J. (2015). You Are What You Tweet: Explaining the Geographic Variation of the Obesity Rate in the United States Through Twitter. *Public Library of Science (PLoS) ONE (2020 Citescore 5.2)*, 10(9): e0133505. https://doi.org/0.1371/journal.pone.0133505. Google Scholar Cite Count: 70

Diallo S, **Gore R**, Padilla J and Lynch CJ* (2015). An overview of modeling and simulation using content analysis. *Scientometrics (2020 Citescore 5.6)*, 103(3), 977-1002. https://doi.org/10.1007/s11192-015-1578-6. Google Scholar Cite Count: 18

Gore R, Reynolds PF, Kamensky D*, Diallo S, and Padilla J. (2015). Statistical debugging for simulations. *ACM Transactions on Modeling and Computer Simulation (2020 Citescore 4.4),* 25(3). https://doi.org/10.1145/2699722. Google Scholar Cite Count: 17

Gore R, Diallo S, and Padilla J. (2014). ConceVE: Conceptual Modeling and Formal Validation for Everyone. *ACM Transactions on Modeling and Computer Simulation (2020 Citescore 4.4)*, 24 (2). https://doi.org/10.1145/2567897. Google Scholar Cite Count: 7

Diallo S, Padilla J, **Gore R**, Herencia-Zapana H, and Tolk A. (2013). Toward a Formalism of Modeling and Simulation Using Model Theory. *Complexity (2020 Citescore 3.2)*, 19(3), 56-63. https://doi.org/10.1002/cplx.21478. Google Scholar Cite Count: 17

Gore R*, and Reynolds, PF. (2010). INSIGHT: understanding unexpected behaviours in agent-based simulations. *Journal of Simulation (2020 Citescore 4.2)*, 4(3), 170-180. https://doi.org/10.1057/jos.2009.26. Google Scholar Cite Count: 10

Peer-reviewed Conference Papers
Key: Google Cite Count (GCC) as of February 22, 2020
GCC of all 23 conference papers – (Mean/Median) - GCC: (8.86 / 2.50)
GCC of 12 conference papers w/ **R. Gore** as 1st author – (Mean/Median) - GCC: (13.25 ⁄ 10.50)

(* / ** / ***) graduate / undergraduate / high school student at time of publication

Leathrum JF, Collins AJ, Cotter TS, Lynch CJ and **Gore R**. (2020). Education in Analytics Needed for the Modeling & Simulation Process. *Winter Simulation Conference*, Virtual. https://doi.org/10.1109/WSC48552.2020.9384122. Google Scholar Cite Count: 0. Acceptance Rate: 67%

Gore R, Wozny P*, Dignum FP, Shults FL, Van Burken CB and Royakkers L (2019). A Value Sensitive ABM of the Refugee Crisis in the Netherlands. *Spring Simulation Conference*, Tuscon, AZ. https://doi.org/10.23919/SpringSim.2019.8732867. Google Scholar Cite Count:

8. Acceptance Rate: 54%

Cornelius C, Lynch CJ*, and **Gore R** (2017). Aging out of crime: exploring the relationship between age and crime with agent based modeling. *Spring Simulation Conference*, Virginia Beach, VA. https://doi.org/10.5555/3106078.3106081. Google Scholar Cite Count: 12. Acceptance Rate: 52%

Kavak H*, Padilla J, Vernon-Bido D*, Diallo S, and **Gore R** (2017). The spread of wi-fi malware revisited. *Spring Simulation Conference*, Virginia Beach, VA. https://doi.org/10.5555/3107979.3107987. Google Scholar Cite Count: 8. Acceptance Rate: 52%

Vernon-Bido D*, Padilla J, Diallo S, Kavak H*, and **Gore R** (2016). Towards modeling factors that enable an attacker. *Summer Simulation Conference*, Montreal, Canada. https://doi.org/10.5555/3015574.3015620. Google Scholar Cite Count: 3. Acceptance Rate: 72%

Diallo S, Lynch CJ*, Padilla J, and **Gore R** (2016). The impact of modeling paradigms on the outcome of simulation studies: An experimental case study. In *Proceedings of the Winter Simulation Conference,* Washington DC. https://doi.org/10.5555/3042094.3042281. Google Scholar Cite Count: 2. Acceptance Rate: 68%

Padilla J, Lynch CJ*, Diallo S, **Gore R**, Barraco A, Kavak H* and Jenkins B*** (2016). Using simulation games for teaching and learning discrete-event simulation. *Winter Simulation Conference,* Washington, DC. https://doi.org/10.5555/3015574.3015620. Google Scholar Cite Count: 27. Acceptance Rate: 68%.

Padilla J, Romero-Hall E, Diallo S, Barraco A, Kavak H*, Lynch CJ*, **Gore R** and Seth-Chandra M. (2015). Modeling and simulation as a service (MSaaS) for education: learning STEM concepts through simulation use and building. *Summer Simulation Conference*. Chicago, IL. https://doi.org/10.5555/2874916.2874966. Google Scholar Cite Count: 3. Acceptance Rate: 71%

Gore R and Seth-Chandra M. (2015). PACT: participant-centered clinical trial framework. *Summer Simulation Conference*. Chicago, IL. https://doi.org/10.5555/2874916.2874974. Google Scholar Cite Count: 0. Acceptance Rate: 71%

Gore R and Diallo S (2013). The need for usable formal methods in verification and validation. *Winter Simulation Conference*, Washington, DC. https://doi.org/10.1109/WSC.2013.6721513. Google Scholar Cite Count: 26. Acceptance Rate: 66%

Dutton K**, **Gore R*** and Reynolds PF (2012). Investigating unexpected outcomes through the application of statistical debuggers. *Winter Simulation Conference*, Berlin, Germany. https://doi.org/10.1109/WSC.2012.6465031. Google Scholar Cite Count: 0. Acceptance Rate: 67%

Gore R* and Reynolds PF (2012). Reducing confounding bias in predicate-level statistical debugging metrics. *International Conference on Software Engineering*, Zurich, Switzerland.

https://doi.org/10.1109/ICSE.2012.6227169. Google Scholar Cite Count: 43. Acceptance Rate: 17%

Gore R* and Reynolds PF (2011). Modifying Test Suite Composition to Enable Effective Predicate-Level Statistical Debugging. *NASA Formal Methods Symposium*, Norfolk, VA. https://doi.org/10.1007/978-3-642-28891-3_8. Google Scholar Cite Count: 2. Acceptance Rate: 32%.

Kamensky D**, **Gore R*** and Reynolds PF (2011). Applying enhanced fault localization technology to Monte Carlo simulations. *Winter Simulation Conference*, Phoenix, AZ. https://doi.org/10.1109/WSC.2011.6147984. Google Scholar Cite Count: 3. Acceptance Rate: 65%

Gore R*, Reynolds PF and Kamensky D** (2011). Statistical Debugging with Elastic Predicates. *International Conference on Automated Software Engineering*, Lawrence, KS. https://doi.org/10.1109/ASE.2011.6100107. Google Scholar Cite Count: 34. Acceptance Rate: 18%

Gore R* and Reynolds PF (2010). Improved methods and measures for computing dynamic program slices in stochastic simulations. *Winter Simulation Conference*, Baltimore, MD. https://doi.org/10.1109/WSC.2010.5679114. Google Scholar Cite Count: 0. Acceptance Rate: 66%

Highley, TJ, **Gore R*** and Snapp C (2010). Granularity of weighted averages and use of rate statistics in AggPro. *Winter Simulation Conference*, Baltimore, MD. https://doi.org/10.1109/WSC.2010.5679059. Google Scholar Cite Count: 1. Acceptance Rate: 66%

Gore R* and Reynolds PF (2009). Program Slice Distribution Functions. *Winter Simulation Conference*, Austin, TX. https://doi.org/10.1109/WSC.2009.5429652. Google Scholar Cite Count: 0. Acceptance Rate: 68%

Gore R* and Reynolds PF (2009). Causal Program Slicing. *Workshop on Principles of Advanced and Distributed Simulation*, Lake Placid, NY. https://doi.org/10.1109/PADS.2009.8. Google Scholar Cite Count: 4. Acceptance Rate: 39%

Gore R* and Reynolds PF (2008). Applying causal inference to understand emergent behavior. *Winter Simulation Conference*, Miami, FL. https://doi.org/10.1109/WSC.2008.4736133. Google Scholar Cite Count: 35. Acceptance Rate: 63%

Gore R* and Reynolds PF (2007). An exploration-based taxonomy for emergent behavior analysis in simulations. *Winter Simulation Conference*, Washington, DC. https://doi.org/10.1109/WSC.2007.4419726. Google Scholar Cite Count: 23. Acceptance Rate: 62%

Gore R* and Reynolds PF (2007). Explanation exploration: Exploring emergent behavior. *Workshop on Principles of Advanced and Distributed Simulation*, San Diego, CA. https://doi.org/ 0.1109/PADS.2007.18. Google Scholar Cite Count: 21. Acceptance Rate: 40%

Reynolds PF, Spiegel M*, Liu X* and **Gore R*** (2007). Validating evolving simulations in COERCE. *International Conference on Computational Science*, Bejing, China.

https://doi.org/10.1007/978-3-540-72584-8_161. Google Scholar Cite Count: 3. Acceptance Rate: 61%

Peer-reviewed Conference Papers in Progress

Lynch CJ, **Gore R**, Collins AJ, Cotter TS, Grigoryan G* and Leathrum JF. (2021) Increased Need for Data Analytics Education in Support of Verification and Validation. *Winter Simulation Conference*. Phoenix, AZ.

Safaee MM, **Gore R**, Lynch CJ and Ames CP. (2021) Sentiment analysis of patient interviews correlates with SRS-22 and SF36 scores in adult spinal deformity: a pilot study of 25 patients. *Annual Meeting of the Scoliosis Research Society*. St. Louis, MO.

Invited Presentations

Frydenlund E, Yilmaz SM, **Gore R**, Van Burken CB, Bozdag E, de Kock C (2019) Characterizing the Mobile Phone Use Patterns of Refugee-Hosting Provinces in Turkey. *Data for Refugees Challenge Workshop*. Istanbul, Turkey.

Wozny P* and **Gore R** (2018). A Value Sensitive Agent-Based Model of Newcomers in the Netherlands. *Humanitarian Logistics for Refugees Workshop*. Amsterdam, Netherlands.

Shults FL and **Gore R** (2018). Modeling Radicalization and Violent Extremism. *Annual Meeting of the European Social Simulation Association*. Stockholm, Sweden.

Gore R (2018). A Generative Model of the Mutual Escalation of Anxiety Between Religious Groups. *Annual Meeting of the International Association for the Cognitive Science of Religion*. Boston, MA.

Gore R (2017). Modeling with Small(er) Data. *Combined Meeting of the International Spine Study Group and European Spine Study Group*. Barcelona, Spain.

Gore R (2017). Understanding Effects of Bicycle Paths in Norfolk at the Census Tract Level. *Quarterly Meeting of Hampton Roads Pedestrian and Bicycling Advocacy Committee*. Surry, VA.

Lemos C, **Gore R**, Phillips LL, and Shults FL (2017). An Agent-Based model of interaction between immigrants and a host population: self-organized and regulated adaptation. *Beyond Schelling and Axelrod: Computational Models of Ethnocentrism and Diversity Workshop*. Manchester, United Kingdom.

Wildman W, **Gore R**, Lemos C, Frydenlund E, Taves A, Rybanska V and Diallo S (2017). A MODRN Approach to the Scientific Study of Religion. *Refugees, Religion and Radicalization Workshop*. Kristiansand, Norway.

Shults FL, **Gore R**, Wildman W, Lane J, Lynch, CJ*, and Toft M. (2017). Mutually Escalating Religious Violence: A Generative Model. *Annual Meeting of the European Social Simulation Association*. Dublin, Ireland.

Gore R (2017). Modeling Improvements in Health Outcomes Enabled By Adding Bike Paths. *Quarterly Meeting of Hampton Roads Pedestrian and Bicycling Advocacy Committee*. Virginia Beach, VA.

Gore R (2016). Using Big Data Sources and Analyses to Gain New Insight into Religion. *Annual Meeting of the International Association for the Cognitive Science of Religion*. Vancouver, Canada.

Gore R (2016). Social Simulation and Policy Challenges. *Modeling Religion in Norway Colloquium*. Kristiansand, Norway.

Mutafungwa E, Thiessard F, Diallo P, **Gore R**, Jouhet V, Karray C, Kheder N, Rym S, Hämäläinen J and Diallo G (2015). Mobile Data as Public Health Decision Enabler: A Case Study of Cardiac and Neurological Emergencies. *Data for Development (D4D) Challenge at Net Mob*. Boston, MA.

Gore R (2014). Traveler Centered Studies. *National Science Foundation: DriveSense Workshop*. Norfolk, VA.

Book Chapters

Diallo S., Lynch, CJ, Padilla, JJ, & **Gore R.** (2021). An Agent-Based Model of obesity and policy. In E. Elliott and L. D. Kiel (Eds.), Complex Systems in the Social and Behavioral Sciences: Theory, Method and Application (pp. 204-238). University of Michigan Press. DOI: 10.3998/mpub.10155018.

Frydenlund E., Yilmaz SM, **Gore R**, Van Burken CB, Bozdag E, de Kock C. (2019) Characterizing the Mobile Phone Use Patterns of Refugee-Hosting Provinces in Turkey. In: Salah A, Yilmaz SM, Lepri B, Letouzé E. (eds) *Guide to Mobile Data Analytics in Refugee Scenarios*. Springer, Cham.

Lynch CJ*, Kavak H, **Gore R**, Vernon-Bido D*. (2019) Identifying Unexpected Behaviors of Agent-Based Models Through Spatial Plots and Heat Maps. In: Carmichael T, Collins A, Hadžikadić M. (eds) *Complex Adaptive Systems: Understanding Complex Systems*. Springer, Cham.

Gore R. (2018). Isolating the causes of emergent failures in computer software. In: Mittal S, Diallo S, Tolk A. (eds) *Emergent Behavior in Complex Systems Engineering: A Modeling and Simulation Approach*. Wiley & Sons.

Diallo S, Tolk A, **Gore R**, and Padilla J. (2014). Modeling and Simulation Framework for Systems Engineering. In: Gianni D, D'Ambrogio A and Tolk A. (eds) *Modeling and Simulation-Based Systems Engineering Handbook*. CRC Press.

Creative Works

From 2011 – 2016 support the development, maintenance and documentation of OpenMx. OpenMx is free and open source software for use with R that allows estimation of a wide variety of advanced multivariate statistical models. OpenMx consists of a library of functions

and optimizers that allow you to quickly and flexibly define an SEM model and estimate parameters given observed data. OpenMx runs on MacOS, Windows, and most varieties of Linux/GNU. This means the same scripts you write in Windows will run in MacOS or Linux. It has more than 1,000 users and has been cited more than 900 times in different research papers.

Support the development and maintenance of the simulation platform called CLOUDES. The environment is one of the first publicly accessible simulation platform of its kind (discrete-event simulation) where users do not need to download software or write code to create simulations. The environment is available in seven languages: Spanish, Turkish, Polish, Italian, Portuguese, German, and English. Faculty members at ODU have used the environment for teaching coursework in the MSVE and EMSE departments. CLOUDES is a web-based, cloud-deployed simulation environment accessible at https://beta.cloudes.me/ with an associated blog at http://blog.cloudes.me/, which includes videos and a list of publications.

Support the development of the simulation platform called Metaphr. Metaphr is a web- based, cloud-deployed simulation environment for building agent-based simulations (http://try-a.metaphr.org/). The platform is currently under testing (not open to the public). Like CLOUDES, its objective is making simulations accessible to anyone (e.g. middle/high school students, scholars in areas like the humanities and social sciences) by reducing barriers of entry like the need for coding/programming. The Metaphr Project has been funded by grants from I have PI-ed (University of Agder in Norway) and grants I have Co-PIed (Department of Defense).

In the News

Articles / Interviews featuring quotes from me

Hafner, K (2021). How best to predict where coronavirus strikes? ODU forecasters have spent the past year trying. Retrieved on May 12, 202 from https://www.pilotonline.com/news/health/vp-nw-covid-odu-forecast-model-20210328-2ycjrnlnrzdpxivc2gnalorjty-story.html.

Collett, K (2020). ODU creates daily COVID-19 forecast model to predict future cases in your area. WAVY 10. Retrieved on May 12, 202 from https://www.wavy.com/news/health/coronavirus/odu-creates-daily-covid-19-forecast-model-to-predict-future-cases-in-your-area/.

De Alba, A (2020). ODU research team launches COVID-19 forecasting model. 13 News Now. Retrieved on May 12, 2021 from https://www.13newsnow.com/article/news/health/coronavirus/odu-research-team-launches-covid-19-forecasting-model/291-6fb510e7-85ca-462f-bd1b-dfa3939f2c6a.

O'Hallarn B (2020). VMASC Develops Real-Time Platform That Predicts Spread of COVID-19 in Virginia. News@ODU. Retrieved on May 12, 2021 from https://www.odu.edu/news/2020/4/vmasc_covid_19_predi#.XtEaLZ5KjAJ.

Goldhill O (2018). Researchers created an artificial society to find the causes of religious

conflict. Quartz. Retrieved on February 21, 2020 from https://qz.com/1451287/researchers-created-an-artificial-society-to-find-the-causes-of-religious-conflict/.

McConnell S (2016). Using Big Data for Good. With Good Reason Radio. Retrieved on February 21, 2020 from https://www.withgoodreasonradio.org/episode/are-our-pets-making-us-sick/?t=00:45:45.

O'Hallarn B (2016). Big Data Modeler Ross Gore to Appear on 'With Good Reason'. News@ODU. Retrieved on May 12, 2021 from https://www.odu.edu/news/2016/8/gore_with_good_reaso#.XlAvPRNKgmL.

O'Hallarn B (2016). ODU Modeling & Simulation Researcher Looks for Clues in Big Data. News@ODU. Retrieved on May 12, 2021 from https://www.odu.edu/news/2016/1/vmasc_big_data#.Xk_bpxNKgmJ.

Articles / Interviews discussing my projects

Garvey J (2021). ODU Research Helping Virginia Plot COVID-19 Vaccine Strategy. Retrieved on May 12, 2021 from https://www.odu.edu/about/odu-publications/insideodu/2021/04/08/feature1.

Samuel S (2018). Can Artificial Intelligence Predict Religious Violence? The Atlantic. Retrieved on May 12, 2021 from https://www.theatlantic.com/international/archive/2018/07/artificial-intelligence-religion-atheism/565076/

Oberhaus D (2018). Researchers Simulated Religious Groups With AI to Try to Understand Religious Violence. Vice: Motherboard. Retrieved on May 12, 2021 from https://motherboard.vice.com/en_us/article/598n3z/researchers-simulated-religious-groups-with-ai-to-try-to-understand-religious-violence

Field M (2018). The AI that could help predict religious violence. The Telegraph. Retrieved on May 12, 2021 from https://www.telegraph.co.uk/technology/2018/10/31/ai-could-help-predict-religious-violence/

Coia P (2018). Interview with Researchers Modeling Religion Project in Norway. BBC Radio: Berkshire. Interview starts at 1 hour 10 ten minutes into program. Retrieved on May 12, 2021 from https://www.bbc.co.uk/sounds/play/p06pq50p.

Gooding M (2018). ODU engineering faculty work to create efficiencies for Naval shipyards. 13 News Now. Retrieved on May 12, 2021 from https://www.13newsnow.com/article/news/odu-engineering-faculty-work-to-create-efficiencies-for-naval-shipyards/291-616643268.

University Service

- ☐ Member of ODU High Performance Computing Committee
- ☐ ODU / HRBRC research faculty search committees (three)
- ☐ ODU / HRBRC project scientist search committees (three)

- ☐ ODU HPC research scientist search committee
- ☐ VMASC/ODU project scientist search committees (three)
- ☐ Served on 3 ODU graduate student PhD dissertation committees (CMSE & CS Depts.)
- ☐ Represented Old Dominion University at the 2014 and 2017 Annual Capitol Hill Modeling & Simulation Expo – presented research from Old Dominion University to house of representative members, senators and staff aides.

Professional Service

Publication Peer-Reviewer

- ☐ Journal of Defense Modeling and Simulation
- ☐ Simulation
- ☐ Simulation Modeling and Practice
- ☐ The Journal of Artificial Societies and Social Simulation
- ☐ ACM Transactions on Modeling and Simulation
- ☐ IEEE Transactions on Knowledge and Data Engineering
- ☐ Journal of Communications and Network
- ☐ Journal of Medical Internet Research
- ☐ Journal of Participatory Medicine
- ☐ Social Science Research
- ☐ Simulation Modelling Practice and Theory
- ☐ Heliyon
- ☐ AI & Society
- ☐ Journal of Information Security and Applications
- ☐ Nonprofit and Voluntary Sector Quarterly
- ☐ Electronics
- ☐ Applied Science

Conference Organizing

- ☐ Member of Program Committee - 2014 - 2021 SCS Spring Simulation Conference. This entails 8 consecutive years of serving on the Program Committee.
- ☐ Member of Program Committee - 2014 - 2021 SCS Winter Simulation Conference. This entails 8 consecutive years of serving on the Program Committee.
- ☐ Member of Program Committee – 2014, 2015, 2018 MODSIM World Conference.
- ☐ Tutorial Chair – 2016 SCS Spring Simulation Conference, Pasadena, CA

Professional Membership

- ☐ Association for Computing Machinery (ACM)
- ☐ Society for Modeling and Simulation International (SCS)

Community Service

- ☐ Participated in the analysis and writeup of State of the Region: Hampton Roads 2018

☐ Work on understanding health effects of bicycle and pedestrian paths in Hampton Roads area with two presentations given to advocates and decision makers (2017).

☐ Created data analytics dashboard and annual reporting capability for Portsmouth Fire, Rescue and Emergency Services related to performance evaluation (2015).

☐ Created automated tool to create catalog entries of all publications from the Journal of Defense Modeling and Simulation. The created catalog entries were ingested into the Defense Modeling and Simulation Coordination Office (DMSCO) simulation library so that they could be searched and retrieved more easily by interested parties (2015).