

# Ross Joseph Gore

Phone: +1.703.887.8060

Google Scholar Profile: [goo.gl/6YQ9dB](https://scholar.google.com/citations?user=6YQ9dB)

Clearance Level: Secret / Currently hold a CAC

Email: [ross.gore@gmail.com](mailto:ross.gore@gmail.com)

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## Summary

I am currently a research assistant professor at Old Dominion University's – Virginia Modeling, Analysis and Simulation Center (VMASC). My work has allowed me to serve as principle investigator and co-principle investigator on a variety of interdisciplinary computational and data science projects across a variety of domains. These include:

- Designing, building, fitting, validating and deploying systems dynamics and agent-based models related to:
  - Understanding the logistics and human experience of the actors involved in the refugee crisis in the Netherlands.
  - Forecasting feelings related to religiosity and existential security for individuals within countries in Europe.
  - Exploring a game theoretic approach to understanding ethnocentrism and intergroup cooperation.
- Conducting statistical analyses of large and often unstructured data sets to gain insight into social science problems:
  - Developing metrics to explain the variation in the obesity rate across the United States from Twitter Data
  - Identifying the most effective locations for future hospitals in Senegal based on anonymized mobile phone data
  - Understanding experiences specific to refugees in Turkey using Twitter and anonymized mobile phone data.
  - Understanding the differences of the experience between tourists and locals when visiting tourist attractions based on Twitter data
  - Cross cultural analyses of religiosity among Christians and the religiously unaffiliated in Europe

In graduate school my dissertation work focused on automated tools to facilitate testing, debugging and validating simulations. In order to evaluate my efforts I needed collaborations in different domains using simulations. This path led to extensive work with social scientists. Throughout this time I have learned how to contribute and work effectively among a team of researchers with different perspectives and personalities. I have served different roles in these collaborations including the person who: (1) developed the model, (2) fit the model to historical data, (3) validated the internal dynamics of the model and (4) deployed the model in a containerized fashion so that it was accessible to decision makers.

The work has been successful. I have published 31 different journal articles (1<sup>st</sup> author on 9) across a variety of different domains related to social science and given presentations on this work in 5 different countries. However, more importantly I have been a part of teams that built models that can provide actionable insight for decision makers faced with difficult questions where quantitative answers are hard to come by. I have an active Secret security clearance and currently hold a Contractor Access Card (CAC).

## **Education**

- Ph.D.                      University of Virginia, Department of Computer Science. August 2011.  
*Fault Localization for Exploratory Simulations*. Committee: Worthy Martin  
(Chair), Paul F. Reynolds (Advisor), Kevin Sullivan, Jack Davidson, Preston White,  
Stephen Turner
- M.CS.                     University of Virginia, Department of Computer Science. May 2007.  
*Explanation Exploration: Exploring Emergent Behavior*. Research Advisor: Paul. F.  
Reynolds
- B.S.                        University of Richmond, Bachelor of Science with Honors. May 2003.  
Computer Science Major. Mathematics Minor. Research Advisor: Lewis Barnett

## **Recent Work Experience**

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2014-Pres.	Research Assistant Professor	Old Dominion University
2013-2014	Visiting Assistant Professor	Gettysburg College
2012-2013	Post-Doctoral Researcher	Old Dominion University

## **Selected Publications from Relevant Projects**

- 2019 R. Gore**, P Wozny, F Dignum, FL Shults, C Boshuijzen-van Burken and L Royakkers. A value sensitive ABM of the refugee crisis in the Netherlands. *Spring Simulation Conference*.
- 2019 C. Lemos, R. Gore**, I. Puga-Gonzalez and F. L. Shults. 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*.
- 2018 R. Gore**, C. Lemos, F. L. Shults, and W. J. Wildman. Forecasting changes in religiosity and existential security with an agent-based model. *Journal of Artificial Societies and Social Simulation*.
- 2015 R. Gore**, S. Diallo and J. Padilla. 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*.

## **Synergistic Activities**

1. Winner of "Practical Application Prize" in the Data For Development (D4D) challenge sponsored by the Orange Foundation and Bill and Melinda Gates Foundation. Solution used anonymized cell phone to identify areas where decision makers could prioritize investments to have the most impact in reducing deaths due stroke or heart attack. URL: [goo.gl/3YiEnL](http://goo.gl/3YiEnL)
2. Winner of "Safety and Security Prize" in the Data For Refugees (D4R) challenge sponsored by Turk Telekom. Solution used anonymized cell phone records and Twitter data to gain insight into where hate speech was used towards Turkish refugees and how Turkish refugees reacted toward violent incidents. URLs: <http://d4r.turktelekom.com.tr/presentation/award-winners/> and [shorturl.at/bcoW1](http://shorturl.at/bcoW1)
3. Six years service on the High Performance Computing (HPC) / Big Data (BD) Advisory Committee for Old Dominion University. During this time he has helped make a myriad of different decisions related to the HPC/BD needs and future of the university. URL for more information: [goo.gl/9wi7jb](http://goo.gl/9wi7jb)

**Selected Proficient Technologies**    *Python, R (tidyverse and base), Java, C#, C++, Linux/Unix Bash, JSON, YAML, XML, Latex*