

# SACHITH ERANGA DASSANAYAKA

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Website

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## EDUCATION

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**PhD in Mathematics, Concentration: Statistics**

**2017 - 2022**

**Texas Tech University, USA**

**Dissertation Topic: Artificial Intelligence Algorithms for Activity Pattern Detection in the Information Operation Networks**

**Advisor: Dimitri Volchenkov, PhD**

**Co-advisor: Ori Swed, PhD**

**MS in Mathematics**

**2017 - 2019**

**Texas Tech University, USA**

**BSc in Computer Science (Special)**

**2010 -2015**

**University of Kelaniya, Sri Lanka**

**Dissertation Topic: Audio Steganography for Secret Communication.**

**Advisor: Hesiri Dharmika Weerasinghe, PhD**

## TEACHING EXPERIENCE

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**Department of Mathematics and Computer Science, Wittenberg University, USA**

**Assistant Professor of Data Science**

**Fall 2022-Present**

- **DATA 327: Statistical Modeling (3 sections)**
- **DATA 227: Introductory Statistics (10 sections)**
- **DATA 229: Introduction to Data Science (4 sections)**
- **DATA 380TA: Data Visualization with Python (2 sections)**
- **COMP 295: Introduction to Networking (1 section)**
- **DATA 380TA: Machine Learning with Python (1 section)**

**Department of Mathematics and Statistics, Texas Tech University, USA**

**Graduate Part-Time Instructor**

**Fall 2018- Spring 2022**

- **MATH 3342: Mathematical Statistics for Engineers and Scientists (2 sections)**
- **MATH 2300: Statistical Methods (6 sections)**
- **MATH 1451: Calculus I with Applications (1 section)**
- **MATH 1550: Precalculus (1 section)**
- **MATH 1330: Introductory Mathematical Analysis I (1 section)**

## PROFESSIONAL DEVELOPMENT (TEACHING)

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Project NExT Fellow August 2022-August 2023

- Selective 1-year program for new mathematics faculty aimed to help transition into full-time teaching in the stats/math/data science
- Attended 3 consecutive Mathfest meetings and the Joint Math Meetings; participated in workshops prior to each meeting specifically for Red cohort Fellows
- Focused on improving the teaching and learning of statistics and data science, developing an individual research program, becoming involved at the university and national levels, and search grants for small scale researches
- Provided a network of peers and mentors throughout the country

SIAM Project NExT Fellow August 2022-August 2023

- Selective 1-year fellowship for new two Project NExT Fellows aimed to help transition into full-time teaching in the mathematical sciences and build connections among SIAM members. [\\_WebLink](#)

Inaugural Digital Liberal Arts Summer Institute June 2023

- One of 15 faculty members from liberal arts colleges around the country to be selected to attend the inaugural Digital Liberal Arts Summer Institute sponsored by Transylvania University's Bingham Program for Excellence in Teaching. [\\_WebLink](#)

## CERTIFICATIONS

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- Oracle Cloud Infrastructure 2025 Certified Data Science Professional (Issued by: Oracle University) October 2025

## PROFESSIONAL QUALIFICATION

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- Machine Learning with Python (Issued by: Coursera, Authorized by: IBM) 2022
- Python for Data Science and AI course (Issued by: Coursera, Authorized by: IBM) 2022
- Diploma in Windows Network Administration 2013
- Certificate Course in Web Designing, University of Kelaniya, Sri Lanka 2013

## OTHER PROFESSIONAL EXPERIENCES

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- Quality Assurance Engineer April 2015 - April 2017  
SimCentric Technologies (Pvt) LTD, Colombo, Sri Lanka
- Temporary Demonstrator February 2015 - April 2015  
Universiy of Kelaniya, Sri Lanka
- Internship January 2014 - June 2014  
Sri Lanka Telecom PLC, Colombo 01, Sri Lanka

## PROFESSIONAL MEMBERSHIPS

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- Mathematical Association of America (MAA)
- American Statistical Association (ASA)

- Society for Industrial and Applied Mathematics (SIAM)

## REFEREED PUBLICATIONS

J. M. Thilini Jayasinghe, Sachith Dassanayaka. “Detecting deception: employing deep neural networks for fraudulent review detection on Amazon,” Neural Computing & Applications (2025) doi.org/10.1007/s00521-025-11485-y.

Ori Swed, Sachith Dassanayaka, and Dimitri Volchenkov. “Keeping it authentic: the social footprint of the trolls’ network,” Social Network Analysis and Mining 14(38) (2024) DOI:10.1007/s13278-023-01161-1.

Sachith Dassanayaka, Ori Swed, and Dimitri Volchenkov. "Mapping the Russian Internet Troll Network on Twitter using a Predictive Model," Journal of Vibration Testing and System Dynamics 7(2) (2023) 113–128, DOI:10.5890/JVTS.2023.06.001.

Eranga, D. M. S., and Hesiri D. Weerasinghe. "Audio transporters for unrevealed communication." In 2015 Fifteenth International Conference on Advances in ICT for Emerging Regions (ICTer), IEEE(2015) pp. 267, 10.1109/ICTER.2015.7377700

## PAPERS SUBMITTED OR UNDER REVIEW

Sachith Dassanayaka, and J. M. Thilini Jayasinghe. "Beyond the Five Stars: Leveraging Deep Learning to Detect Sophisticated Review Fraud on Amazon using Nod2Vec," Journal of Neural Computing & Applications.

Sachith Dassanayaka, and Ori Swed. “Cross-Platform Behavioral Analysis of Troll Networks: Mapping Disinformation Strategies Across Social Media and State-Sponsored Channels,” *Journal of Computational Social Science*.

## **PRESENTATIONS AND POSTERS AT PROFESSIONAL MEETINGS**

A Text-Based Classification to Escalate the Predictability of Fake Tweet Actors in Troll Network  
October, 2024

SIAM Conference on Mathematics of Data Science (MDS24)

# Creating a Framework to Classify Actors and Expose Misleading Identifications in Russian Troll Networks on Twitter through Natural Language Processing January, 2024

## Joint Mathematics Meeting

## Classifying Twitter's Russian Trolls via Machine Learning MathFest

August, 2023

# A Model to Differentiate Actors in Order to Uncover the Artificial Legitimacy of the Russian Information Operation Networks

## Joint Mathematics Meeting

Identify the actors in the Russian Information Operation Networks and Three-Dimensional Geometric Visualization of Activities February, 2022

American Statistical Association Conference on Statistical Practice

Mapping the Russian Information Operation Networks to a Neural Network predictive model January, 2022

The Southern Political Science Association Annual Meeting 2022

- Uncover the Hidden Activity Patterns and Differentiate Fake Personas of the Russian Troll Networks via a Machine Learning Model November, 2021  
2nd Waterloo Student Conference of Statistics, Actuarial Science and Finance, University of Waterloo, Canada
- Classifying the Actors of the Information Operation Networks through a Machine Learning Technique November, 2021  
The 4th Annual Meeting of the SIAM Texas-Louisiana Section, University of Texas Rio Grande Valley, USA
- Poster: A Machine Learning Technique to Categorize the Russian Information Operation Networks October, 2021  
Conference of Texas Statisticians (Virtual), Texas Tech University, USA
- Using a Predictive Model to Map the Russian Information Operation Networks September, 2021  
17th Applied Statistics 2021 conference (Virtual), Statistical Society of Slovenia, Slovenia
- Revealing the Russian Information Operation Networks structure using a predictive model September, 2021  
The 44th SIAM Southeastern Atlantic Section Conference, Auburn University, USA
- Two Tier Shield Unapparent Information Deliver along with the Visual Streams November, 2016  
Kelaniya International Conference on Advances in Computing and Technology, Sri Lanka
- Conceal Communication via MP3 December, 2015  
International Postgraduate Research Conference, Sri Lanka
- Poster: Audio Transporters for Unrevealed Communication August, 2015  
15th IEEE International Conference on Advances in ICT for Emerging Regions, Sri Lanka

## OTHER PRESENTATIONS

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- Creating a Framework to Classify Actors in Russian Troll Network on Twitter through Language Processing November, 2025  
Department of Mathematics and Computer Science Colloquium  
Central State University, Wilberforce, OH
- How Machine Learning Supports Us in Understanding the Structure of the Trolls on Twitter January, 2023  
Department of Math and Computer Science Colloquium  
Wittenberg University, Springfield, OH
- Can Machine Learning Assist Us in Understanding the Structure of the Russian Troll Network on Twitter? November, 2022  
Ronneberg Lecture Series, Denison University, OH

## AWARDS AND SCHOLARSHIPS

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- SIAM Early Career Travel Award for SIAM Conference on Mathematics of Data Science (MDS24) 2024
- SIAM Early Career Travel Award for Joint Mathematics Meeting 2024 2024

- Early Graduation Scholarship, Texas Tech University Summer 2022
- Hildebrand Scholarship, Texas Tech University Summer 2022
- Study Abroad Competitive Scholarship, Texas Tech University Spring 2020 to Spring 2022
- Prestage-Cook Travel Award from the Southern Political Science Association (SPSA) 2022
- Travel support from the 4th Annual Meeting of the SIAM Texas-Louisiana Section (TXLA) 2021
- Travel support from the SIAM Southeastern Atlantic Section Conference (SIAM-SEAS) 2021
- Travel support from the Graduate School, Texas Tech University 2021
- Special recognition from Rawls Information Security Association (RISA), Texas Tech University 2018

## RESEARCH EXPERIENCE

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### Research Interest

- Natural Language Processing (NLP)
- Machine Learning and deep Neural Network Models
- Data Visualization
- Machine Intelligence
- Computer Security (Cryptography and Steganography)
- Design thinking and technology for undergraduate Statistics and Data Science

## UNDERGRADUATE RESEARCH PROJECTS

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- Zach Rust '26, Pitch Prediction Using Multimodal Learning with Grip Image and Kinematic Data, Advisor(Hon's Thesis)
- Ian L. Potter '27, Develop a predictive model using Natural Language Processing(NLP) for a fake review datasets, Advisor(FYRA)
- Hillary Hamburger '26, Develop a predictive model for IMDB-rated datasets, Advisor(FYRA)

## UNDERGRADUATE INDEPENDENT STUDY

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- Dominic J. Cork '24, Analyzing and building predictive models for misinformation campaigns on Tweets via Machine Learning
- Matthew D. Rogers '24, Analyzing a NFL football dataset by applying regression
- Meghan Lythgoe '23, Analyzing Tweets via Natural Language Processing

## WORKSHOPS, WEBINARS, AND CONFERENCE ATTENDED

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- Joint Mathematics Meetings

San Francisco, CA	January 03-06, 2024
• MathFest	
Tampa, FL	August 02-06, 2023
Philadelphia, PA	August 03-06, 2022
• Joint Mathematics Meetings	
Boston, MA	January 04-07, 2023
• Symposium on Teaching Statistics, American Statistical Association, New York City Metro Area Chapter	November 02, 2021
Virtual event	
• Big Data and AI 2021, Virtual event for data and analytics professionals (AI, Big Data, Cloud, Cybersecurity), Toronto	October 13-14, 2021
Virtual event	
• VMworld 2021, Multi-Cloud Online event around the globe	October 5-7, 2021
Virtual event	
• Building an Open, Petabyte-Scale Data Platform With Databricks	September 29, 2021
Webinar Talk	
• Open Data Science Conference APAC 2021	September 15-16, 2021
Virtual Conference	
• 2nd annual workshop on Knowledge Guided Machine Learning	August 9-11, 2021
Webinar Talk	
• Deployment Of Hybrid Cloud Machine Learning Workloads Using VMware Cloud Foundation with Tanzu	January 28, 2021
Webcast	
• Scientific Computing Meets Machine Learning and Life Sciences	October 7-9, 2019
Texas Tech University	

#### **NEW TOPIC COURSES DESIGNED**

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DATA 380TA: Machine Learning with Python	Fall, 2024
DATA 380TA: Data Visualization with Python	Fall, 2023

#### **CONTRIBUTIONS TO THE UNIVERSITY**

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• Committee member of the Honor Council Wittenberg University, Springfield, OH	Fall 2024-Present
• Committee member of the BA in international business Wittenberg University, Springfield, OH	Spring 2023-Present
• Search Committee for Computer Science Tenure-Track Position Wittenberg University, Springfield, OH	Fall 2022

#### **CONTRIBUTIONS TO THE STATISTICS/DATA SCIENCE COMMUNITY**

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• Reviewer: Misinformation Review by Harvard Kennedy School	2023 to present
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- Reviewer: International Journal of Data Science and Analysis 2025 to present
- Reviewer: Mechanisms of Ageing and Development journal 2025 to present
- Technical Program Committee of the 10<sup>th</sup> International Conference on Advances in Technology and Computing (ICATC 2025), University of Kelaniya, Sri Lanka
- Reviewer: International Conference on Applied and Pure Sciences, Sri Lanka (ICAPS) 2024
- Reviewer: Undergraduate Statistics Project Competition (USPROC) Fall 2024, Fall 2025
- Reviewer: The Applied Science Business and Industrial Research Symposium, Sri Lanka (ASBIRES) 2024

## TECHNICAL SKILLS

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- Cisco Router and Switch (layer3 and layer2) configuration
- Strong knowledge and experience in software Quality Assurance
- Virtual Machine Software: VirtualBox and VMware Workstation Player
- Web Developing