

SACHITH ERANGA DASSANAYAKA

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Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409-1042

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EDUCATION

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 Secrete Communication.

Advisor: Hesiri Dhammika Weerasinghe, PhD

PROFESSIONAL QUALIFICATION

Diploma in Windows Network Administration 2013

Certificate Course in Web Designing, University of Kelaniya, Sri Lanka 2013

PROFESSIONAL EXPERIENCE

Graduate Part-time Instructor August 2018 - Present

Department of Mathematics and Statistics, Texas Tech University, USA

Teaching Assistant August 2017 - August 2018

Department of Mathematics and Statistics, Texas Tech University, USA

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

MEMBERSHIPS

Member, American Statistical Association (ASA)

Member, Southern Political Science Association (SPSA)

Member, Society for Industrial and Applied Mathematics (SIAM)

Member, SIAM chapter at Texas Tech University (SIAM TTU)

Member, American Mathematical Society (AMS)

Member, Sri Lankan Students Association (SLSA), Texas Tech University, USA

Member, Rawls Information Security Association (RISA), Texas Tech University

Member, Graduate Student Advisory Council (GSAC), Texas Tech University

TEACHING EXPERIENCE

Instructor of record

Department of Mathematics and Statistics, Texas Tech University, USA

Mathematical Statistics for Engineers and Scientists	Spring 2021, Summer 2021
Statistical Methods	Spring: 2020, Summer: 2019, 2020, Fall: 2020, 2021
Calculus I with Applications	Spring 2019
Precalculus	Fall 2018
Introductory Mathematical Analysis I	Fall 2019

RESEARCH INTEREST

Social Media Network Analysis
Natural Language Processing (NLP)
Neural Network Models
Classification
Computer Security (Cryptography and Steganography)

AWARDS AND SCHOLARSHIPS

Study Abroad Competitive Scholarship	Spring 2020 to Spring 2022
Graduate student travel grant from American Mathematical Society(AMS) to Joint Mathematics Meetings(JMM)	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

REFEREED PUBLICATIONS

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), pp. 267-267. IEEE, 2015.

PAPERS IN REVIEW

Ori Swed, **Sachith Eranga Dassanayaka**, and Dimitri Volchenkov. "Keeping it Authentic: The Social Footprint of the Trolls' Network," Journal of Research in Social Movements, Conflicts and Change.

Sachith Eranga Dassanayaka, Ori Swed, and Dimitri Volchenkov. "Revealing the Structure of the Russian Information Operation Network on Twitter using a Predictive Model," Journal of Vibration Testing and System Dynamics.

PAPERS IN PREPARATION

Sachith Eranga Dassanayaka, Ori Swed, and Dimitri Volchenkov. "Uncover the Hidden Activity Patterns and Differentiate Fake Personas of the Russian Troll Networks."

CONFERENCE PRESENTATIONS

American Statistical Association Conference on Statistical Practice (ASA CSP2022) (upcoming) February, 2022

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

The Southern Political Science Association (SPSA) Annual Meeting 2022 (upcoming) January, 2022

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

Joint Mathematics Meeting (JMM) (upcoming) January, 2022

A Model to differentiate Actors in order to Uncover the Artificial Legitimacy of the Russian Information Operation Networks

2nd Waterloo Student Conference of Statistics, Actuarial Science and Finance, University of Waterloo, Canada November, 2021

Uncover the Hidden Activity Patterns and Differentiate Fake Personas of the Russian Troll Networks via a Machine Learning Model

The 4th Annual Meeting of the SIAM Texas-Louisiana Section (TXLA21), University of Texas Rio Grande Valley, USA November, 2021

Classifying the Actors of the Information Operation Networks through a Machine Learning Technique

Conference of Texas Statisticians (Virtual), Texas Tech University, USA October, 2021

Poster: A Machine Learning Technique to Categorize the Russian Information Operation Networks

17th Applied Statistics 2021 conference (Virtual), Statistical Society of Slovenia, Slovenia September, 2021

Using a Predictive Model to Map the Russian Information Operation Networks

The 44th SIAM Southeastern Atlantic Section Conference, Auburn University, USA September, 2021

Revealing the Russian Information Operation Networks structure using a predictive model

Kelaniya International Conference on Advances in Computing and Technology, Sri Lanka November, 2016

Two Tier Shield Unapparent Information Deliver along with the Visual Streams

International Postgraduate Research Conference, Sri Lanka December, 2015

Conceal Communication via MP3

15th IEEE International Conference on Advances in ICT for Emerging Regions, Sri Lanka August, 2015

Poster: Audio Transporters for Unrevealed Communication

WORKSHOPS,WEBINARS, AND CONFERENCES ATTENDED

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 Webinar Talk	September 29, 2021
Open Data Science Conference APAC 2021 Virtual Conference	September 15-16, 2021
Red Raider Minisymposium Modeling in a Heterogeneous World! Biology Room 102, Texas Tech University	August 20-21, 2021
2nd annual workshop on Knowledge Guided Machine Learning Webinar Talk	August 9-11, 2021
Statistical in Imaging section Webinar Talk	April 16, 2021
Deployment Of Hybrid Cloud Machine Learning Workloads Using VMware Cloud Foundation with Tanzu Webcast	January 28, 2021
Scientific Computing Meets Machine Learning and Life Sciences Matador Room in the student union building, Texas Tech University	October 7-9, 2019

VOLUNTARY SERVICES

Serve as a judge for the Arts & Humanities Graduate Students Research Conference, Texas Tech University	2021
COVID 19 vaccination clinic, conducted by the City of Lubbock Health Department	2021
President at SLSA, TTU	2019 - 2020
Event Coordinator at SIAM chapter, TTU	2019 - 2020
Treasurer at SLSA, TTU	2018 - 2019
Project QA Team Lead at RISA, TTU	2018

PROGRAMMING LANGUAGES

Python, Matlab, R, Java, CSS, PHP, Java Script, VB.Net, Joomla, PL/SQL

TECHNICAL SKILLS

Cisco Router and switch (layer3 and layer2) configuration

Strong knowledge and experience on Quality Assurance

Virtual Machine Software: VirtualBox and VMware Workstation Player

REFERENCES

Dimitri Volchenkov, PhD (Associate Professor)

Department of Mathematics and Statistics

Texas Tech University, Lubbock, Texas, USA.

Email: dimitri.volchenkov@ttu.edu

Ori Swed, PhD (Assistant Professor)

Department of Sociology, Anthropology, and Social Work

Texas Tech University, Lubbock, Texas, USA.

Email: ori.swed@ttu.edu

Leif Ellingson, PhD (Associate Professor)

Department of Mathematics and Statistics

Texas Tech University, Lubbock, Texas, USA.

Email: leif.ellingson@ttu.edu

David Cannon, MEd (Graduate Program Manager and Advisor)

Department of Mathematics and Statistics

Texas Tech University, Lubbock, Texas, USA.

Email: david.cannon@ttu.edu