Chalani Prematilake

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CONTACT INFORMATION	Austin 233 Department of Mathematics East Carolina University Greenville, NC 27858, USA	1 806 252 3798 prematilakec17@ecu.edu

RESEARCH INTERESTS

Applications of Statistical Shape Analysis, Clinical Data Analysis, Regression Analysis, Spatial Autocorrelation, Multivariate Data Analysis.

EDUCATION

Texas Tech University, Lubbock, TX

PhD in Mathematics, Concentration: Statistics, *August 2016*

Dissertation Topic: Prediction of Lower Bounds for the Number of Sampling Points for Approximating Shapes of Planar Contours
Advisor: Ellingson. Leif, PhD
Co-advisor: Toda. Magdalena, PhD

MS in Statistics, *August 2011*

Thesis Topic: Applications of Spatial Autocorrelation
Advisor: Hadjicostas. Petros, PhD

University of Peradeniya, Peradeniya, Sri Lanka

MSc in Applied Statistics, Post Graduate Institute of science, 2005

Thesis Topic: A Regression Model for the Stream Flow Prediction in Upper Kothmale Catchment in Sri Lanka
Advisors: Perera. Kanthi, PhD and Weerakoon. S. B., PhD

BS in Physical Sciences, Faculty of Science, 2002

ACADEMIC EXPERIENCE

Assistant Professor, Department of Mathematics, East Carolina University (ECU), Greenville, North Carolina, USA, August 2017 to present.

Recurrent Faculty Member, School of Health Professions, Texas Tech University Health Sciences Center (TTUHSC), Lubbock, Texas, USA, August 2016 to July 2017

Instructor, Department of Mathematics and Statistics, Texas Tech University (TTU), Lubbock, USA, August 2016 to May 2017.

Graduate Part-Time Instructor, Department of Mathematics and Statistics, Texas Tech University, Lubbock, USA, June 2012 to August 2016.

Teaching Assistant, Speech Language and Hearing Sciences, Texas Tech University Health Sciences Center, Lubbock, Texas, USA, March 2014 to August 2016.

Volunteer Summer Intern, Clinical Research Institute, Texas Tech University Health Science Center, Lubbock, Texas, USA, Summer 2014.

Graduate Teaching Assistant, Department of Mathematics and Statistics, Texas Tech University, Lubbock, Texas, USA, January 2010 to May 2012.

Lecturer, Engineering Education Unit, University of Peradeniya, Sri Lanka, May 2008 to November 2009.

Teaching Assistant, Research Assistant, Department of Mathematics, Faculty of Engineering, University of Peradeniya,, Sri Lanka; January 2004 to July 2007.

Lecturer, National Institute of Computer Studies, Kegalle, Sri Lanka; 1998 to 1999.

COURSE PREPARATION	**East Carolina University** Assistant Professor

East Carolina University

Assistant Professor

> **MATH 4031/5031 Applied Statistical Analysis** spring 2022, spring 2021, spring 2020.
> **MATH 2283 Statistics for Business**. spring 2022, fall 2021, summer 2021, spring 2021, fall 2020, summer 2020, spring 2019, fall 2018, summer 2018, spring 2018, fall 2017.
> **MATH 3329 Elementary Statistical Methods II**. spring 2018.
> **MATH 1065 College Algebra**. summer 2022, summer 2018.

Texas Tech University Health Sciences Center

Adjunct Instructor

> **HPRS 5360 Advanced Statistical Methods**, summer 2017.
> **HPRS 5350 Intermediate Statistical Methods**, spring 2017.
> **HPRS 5340 Introductory Statistical Methods**, fall 2016.

Texas Tech University Department of Mathematics & Statistics

Instructor

> **MATH 1321 Trigonometry**, fall 2016.
> **MATH 2300 Statistical Methods**, spring 2017.

Graduate Part-time Instructor

> **MATH 3342 Statistics for Scientists and Engineers**, summer 2016, fall 2010.
> **MATH 2300 Statistical Methods**, summer 2016, spring 2016, summer 2015, spring 2015, fall 2014, summer 2014, spring 2014, spring 2013, fall 2012, summer 2012, spring 2012, fall 2010, summer 2011, spring 2011, fall 2010
> **MATH 1330 Introductory Mathematical Analysis**, fall 2015, summer 2012.

Graduate Assistant

> **MATH 5328 Intermediate Mathematical Statistics**. fall 2013.
> **MATH 4342 Mathematical Statistics**. fall 2013.

University of Peradeniya

Teaching Assistant

> **EM 309 Industrial Mathematics** (Applications and Examples with SAS). 2006.
> **EM 512 Sampling Theory** (Grader). 2007.

National Science Foundation (PI: Prematilake, C)	**Under Review**

LEAPS-MPS: Object Data Analysis with a Focus on Dimension Reduction and Classification on Planar Contours.

Teaching Grant - ECU

- Incorporating Bloom's Taxonomy to Enhance the Course Outcomes Through a Variety of Assessments - 2021-2022 (not granted)
- Change the data analysis tool used in Applied Statistical Analysis (MATH 4031 and MATH 5031) from Minitab to SAS OnDemand for Academics - 2022-2023 (Not Granted)

Travel Grant - CBMS Conference: Elastic Functional and Shape Data Analysis (2018)

Startup funds - (2017-2020)

Travel Grants - Association for Women in Mathematics (AWM) and SIAM (2011-2016)

AWARDS AND HONORS	**Honored Instructor Award**, ECU Campus Living and the Residence Hall Association - April 2018.
	First place in the Doctoral Poster Presentation Competition, COTS (Conference of Texas Statisticians) - April 2016.
	Certificate of Recognition: Meritorious Poster Submission, ASHA (American Speech-Language-Hearing Association) Convention - November 2015.
	Certificate of Recognition, Gordon Fuller Graduate Scholarship 2011-2012, Department of mathematics and Statistics, Texas Tech University.
REFEREED PUBLICATIONS	Jayasinghe, J.M.T.N., Ellingson, L., and **Prematilake, C.** (2021) Regression models using the LINEX loss to predict lower bounds for the number of points for approximating planar contour shapes *Journal of Applied Statistics*.
	Kroll, T. A., Trindade, A. A., Asikis, A., Lau, M., Saenz, C., Head, M., **Prematilake, C.**, Perry, C. (2018) The DUT task: A novel experimental paradigm to investigate the variability of eye movements in whole-text reading for meaning. *Journal of Research Design and Statistics in Linguistics and Communications Science*.
	Prematilake, C. and Ellingson, L. (2017) Evaluation and Prediction of Polygon Approximations of Planar Contours for Shape Analysis. *Journal of Applied Statistics*.
	Samantha, A. M., Brandon, H. L., **Prematilake, C.**, and Dissanaike, S. (2015). The Prediction and Predicament: Rethinking Narcotizing Soft Tissue Infections Mortality. *Journal of Surgical Infections*, 16(6), 813-821.
PAPERS IN PREPARATION	**Prematilake, C.** Assessing the Precision of a Polygon Approximation Methodology in Statistical Shape Analysis with Regard to a Classification Problem. (to be submitted in spring 2022)
	Prematilake, C. Generalizing Polygon Approximation Methods Using Object Data Arise as Contours in Different Fields; Patient data from Radiation Oncology, ECU. (to be submitted in spring 2022)
CONFERENCE PROCEEDINGS	Ellingson, L., **Prematilake, C.** (2013) Problems in Approximating Shapes of Planar Contours. Joint Statistical Meeting.
	Prematilake, C., Perera, K., and Weerakoon, S.B. (2004). A Statistical Model for the Stream Flow Prediction in the Upper Kothmale Catchment in Sri Lanka. International Conference on Sustainable Water Resources Management in the Changing Environment of the Monsoon Region, BMICH, Sri Lanka.
	Prematilake, C., Perera, K., and Weerakoon, S.B. (2004). A Regression Model for the Stream Flow at Caledonia in Upper Kothmale Catchment. Peradeniya University Annual Research Sessions, Sri Lanka.

ORAL PRESENTATIONS	**Prematilake, C.** (October 8, 2021) Assessing the Precision of a Polygon Approximation Methodology in Statistical Shape Analysis with Regard to a Classification Problem. Women in Statistics and Data Science, Virtual Conference.
	Prematilake, C. and Ellingson, L. (August 4, 2016) Comparing the Performances of Different Parameterizations Used for Dimension Reduction in Approximating Shapes of Planar Contours. Joint Statistical Meetings, Chicago, Illinois.
	Prematilake, C. and Ellingson, L. (August 11, 2015) Prediction of Lower Bounds for the Number of Sampling Points for Approximating Shapes of Planar Contours. Joint Statistical Meetings, Seattle, Washington.
	Prematilake, C., Ellingson, L. (April, 2014) Prediction of Lower Bounds for the Number of Sampling Points for Approximating Shapes of Planar Contours. AMS central sectional meeting, Texas Tech University, Lubbock, USA.
	Prematilake, C., Perera, K., and Weerakoon, S.B. (November, 2004) A Statistical Model for the Stream Flow Prediction in the Upper Kothmale Catchment in Sri Lanka. International Conference on Sustainable Water Resources Management in the Changing Environment of the Monsoon Region, BMICH, Sri Lanka.
	Prematilake, C., Perera, K., and Weerakoon, S.B. (2004) A Regression Model for the Stream Flow at Caledonia in Upper Kothmale Catchment. Peradeniya University Annual Research Sessions, University of Peradeniya, Sri Lanka.
POSTER PRESENTATIONS	**Prematilake, C.**, Ellingson, L. (April, 2016) Prediction and Comparison of Approximations of Planar Contours for two Parameterizations. Conference of Texas Statisticians (COTS) San Antonio, TX, USA.
	Prematilake, C., Ellingson, L. (November, 2016) Prediction and Comparison of Approximations of Planar Contours for two Parameterizations. Fifteenth Annual Red Raider Mini-Symposium: "Spatial Inference on Manifolds" Texas Tech University, Lubbock, TX, USA.
	Koul R., Pasupathy, R., Donai, J., and **Prematilake, C.** (November, 2015). Access to and Satisfaction With Health Care: A Survey of Medicare Beneficiaries With Communication Impairments. ASHA Convention, Denver, CO, USA.
	Prematilake, C., Ellingson, L. (June, 2014) Prediction of Lower Bounds for the number of sampling points for approximating shapes of planar contours. SRCOS 2014 Summer Research Conference, Galveston, TX, USA.
SEMINARS	Prediction of Lower Bounds for the Number of Sampling Points for Approximating Shapes of Planar Contours, Image Analysis Seminar - November 19, 2014.
	Prediction of Lower Bounds for the Number of Sampling Points for Approximating Shapes of Planar Contours-partially completed, Image Analysis Seminar - April, 2013.
	Applications of Spatial Autocorrelation, Statistics Seminar - September 12, 2011.
OTHER PRESENTATIONS	Canvas Course to Assist Remote Learning: Classwork, Engagement, and Assessment, virtual symposium on *How I Survived the Pivot: Creative Solutions to Facilitate Remote Learning*, ECU, November 18, 2020.

ACADEMIC ADVISING	John Calhoun, MA-Mathematics with a concentration in Statistics - 2022
	Jean-Sebastien Kacou Anoma, MA-Mathematics with a concentration in Statistics - 2021
	Research Project - Logistic Regression to Assess the Effect of Lifestyle on Individual Health: Based on Behavioral Risk Factor Surveillance System (BRFSS) - 2019
OTHER RESEARCH EXPERIENCE	BSc Engineering Study Program Evaluation Survey of the Faculty of Engineering - 2006, University of Peradeniya, Sri Lanka.
	Solar Radiation Modelling for Sri Lanka - 2005
MEMBERSHIPS	American Statistical Association member since 2011
	ASA North carolina Chapter member since 2017
WORKSHOPS COURSES	Faculty Success Alumni Program offered by National Center for Faculty Development & Diversity - spring 2022
	Faculty Success Program offered by National Center for Faculty Development & Diversity - fall 2021
	Designing Effective Online Courses, Digital Learning Initiative Office, NC State University - Fall 2020
	Elastic Functional and Shape Data Analysis Conference (organized by Mathematical Biosciences Institute)
	Professional Proposal Writing Comprehensive online Course (conducted by Grant Writing Center)
SERVICE	Professional Service
	<u>Journal Reviewer</u>
	Data-Enabled Dicovery and Applications (DEDA)
	Applications and Applied Mathematics: An International Journal (AAM)
	<u>Judging</u> at Research & Creative Achievement Week, ECU 2020
	University Service
	Secretary of Math Department Undergraduate Curriculum Committee - 2019-2022
	Secretary of Math Department Evaluation Committee - 2021-2023
	Member of Math Department Hiring Committee - 2019, 2020, 2022
	Volunteer at ECU Fall Open House - 2018, 2019, 2020, 2021
	Proctor at ECU Math Contest for Middle School and HighSchool Students - 2018,2019
	Community Service
	Math Team Coach, Hope Middle School - 2017, 2018
	Volunteer at MathCounts Eastern Regional Competition - 2018, 2019, 2020
SOFTWARE	Windows, MAC operating systems and their office applications
	SAS, R, SPSS, MATLAB, Minitab
	LaTeX, HTML, Most of the Adobe Creative Cloud Packages