

# Tharshanna Nadarajah

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## Personal Profile

My academic experience, working as an Assistant Professor with a solid research background and teaching various online and face to face courses. I am interested in developing a career that combines teaching and research while maintaining my research interest in health data analysis and data science with computer application and the broader STEM field.

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## Academic Background

**2011-2016** PhD in Statistics - Memorial University of Newfoundland

Thesis Title: *Empirical Likelihood Based Longitudinal Studies*

Supervisors: Dr. A. M. Variyath and Prof. J Concepción Loredó-Osti

**2009-2011** Master of Science in Statistics - Memorial University of Newfoundland

GPA 4/4

Thesis Title: *Penalized Empirical Likelihood Based Variable Selection*

Supervisor: Dr. A. M. Variyath

**2005-2007** Master of Science in Applied Statistics - University of Peradeniya, Sri Lanka

GPA 3.89/4

Thesis Title: *Time Series Regression Modeling of Economic Development and Carbon Dioxide Emissions*

Supervisors: Drs. Kanthi Perera and R.Shanthini

**2001-2004** Bachelor of Science (Hons) - Eastern University, Sri Lanka

Major Subjects: *Statistics, Computer Science, and Pure Mathematics*

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## Professional Experience

**Sept 2020 -** University of Toronto, Toronto, ON M5S 3G3

**Present**     *Assistant Professor, Teaching Stream*

- Preparing for classes, record lectures, create slides, hold office hours, create homework, quizzes and exams, and respond to student questions in person, through email or discussion forum
  - Coordination of teaching assistants to discuss assignment marking and guide them to help students in the discussion forum.
  - Assess students' progress by grading assignments, quizzes, labs, exams, and other work
  - Maintenance and ongoing development of the course website. Posting of materials including course outlines, schedules, and recorded lectures.
  - Coordinating the development of examination materials, and all aspects of examination delivery
  - Designing new courses at the undergraduate level
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**Aug 2016 -** St. Francis Xavier University Antigonish, NS B2G 2W5

**Aug 2020**     *Assistant Professor*

- Taught six face to face and three online Statistics and Mathematics courses per year for undergraduate students
  - Prepared for classes, wrote lectures, created slides, hold office hours, created homework, quizzes and exams, and responded to student questions in person, through email or discussion forum
  - Assessed students' progress by grading assignments, quizzes, labs, exams, and other work
  - Service/administrative work within the University
  - Engaged in student recruiting, program development, and program assessment
  - Supervised labs, coordinated statistics courses, mentored teaching assistants, and supervised BSc Hons degree students in their major research projects
  - Designed a course at the undergraduate level
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**Sept 2015** - Fisheries and Marine Institute of Memorial University of Newfoundland

**Apr 2016**    *Research Assistant*

- Research at Centre for Fisheries Ecosystems Research involved modelling the growth of fish

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**Sept 2015** - Memorial University of Newfoundland, St. John's, NL

**Dec 2015**    *Instructor*

- Organized and delivered lectures for Life Science Students
- Prepared, administered and graded students examinations

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**Sept 2009** - Memorial University of Newfoundland, St. John's, NL

**Dec 2015**    *Teaching Assistant*

- Developed and implemented a set of web-based statistical applets to introductory statistics courses
- Conducted seminars, discussion groups, and help center
- Conducted laboratory sessions to supplement lectures using R, Rstudio, and Minitab
- Assisted in preparation and administration of examinations
- Graded examinations, term papers, and laboratory reports
- Compiled research results and assisted professor in analysis of results and preparation of journal articles or papers

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**Sept 2011** - Memorial University of Newfoundland, St. John's, NL

**Dec 2015**    *Provided Consulting Services*

- Helped with both quantitative and qualitative projects requiring data analysis for faculty, students and companies
- Statistical help including thesis projects (both graduate and undergraduate) and statistics homework tutoring
- Assisted students in the development of appropriate study skills
- Maintained consistent communication with students
- I successfully completed in short-term external project "Statistical Analysis of the Vessel Movement" sponsored by Suncore Energy Inc. under the supervision of Dr. Variyath and Dr. Oyet

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**Nov 2007** - Eastern University, Sri Lanka

**July 2009**    *Assistant Lecturer*

- Prepared and delivered lectures to students and conducted laboratory sessions or discussion groups
  - Prepared, administered and graded students examinations, laboratory assignments and reports
  - Advised students on course and academic matters and career advice
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**Aug 2004** - Eastern University, Sri Lanka

**Oct 2007**     *Instructor*

- Organized and delivered student discussion groups to supplement lectures
  - Conducted laboratory sessions to supplement lectures using Minitab and SPSS
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## Computer Proficiencies

### ■ Programming

- C/C++
- Python
- Java
- HTML
- Visual Basic

### ■ Statistical Packages:

- R/R Studio
- SAS
- Minitab
- SPSS
- Latex

### ■ Miscellaneous

- MS Office
  - Mac OS, Windows XP, Linux, and Windows Vista
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## Conferences and Workshops

### ■ The Impact and Effectiveness of On-line Homework in an Introductory Statistics Course

*Statistical Society of Canada Annual Meeting, May 31-June 3, 2020 at Carleton University, Ottawa, Ontario (Conference canceled).*

### ■ A systematic approach for effective assignment problem solving

*Statistical Society of Canada Annual Meeting, May 26-29, 2019 at University of Calgary, Calgary, AB*

### ■ Penalized Generalized Quasi-Likelihood based Variable Selection for Longitudinal Data

*International Symposium in Statistics (ISS) July 6 to 8, 2015 at St. John's, NL*

### ■ Variable Selection for Longitudinal Data Analysis

*Statistical Society of Canada Annual Meeting, June 14-17, 2015 at Dalhousie University, Halifax, NS*

### ■ Penalized Empirical Likelihood and Generalized Estimating Equations

*Aldrich Interdisciplinary Conference 2015, Memorial University of NL, St. John's*

### ■ Invited Speaker: Penalized Empirical Likelihood Based Longitudinal Studies

*An International conference organized by the Institute of Applied Statistics, Sri Lanka, December 28-30, 2014 at Galadari Hotel, Colombo, Sri Lanka*

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- **Empirical Likelihood Based Longitudinal Studies**  
*2014 Student Conference, May 24, 2014 at the University Toronto, Toronto, ON.*
  - **Empirical Likelihood Based Longitudinal Studies**  
*Statistical Society of Canada Annual Meeting, May 25-28, 2014 at the University Toronto, Toronto, ON.*
  - **Attended Conference (July, 2012): International Symposium in Statistics (ISS)**  
*Memorial University of Newfoundland, St. John's, NL*
  - **Penalized Empirical Likelihood Based Variable Selection For Cox's Proportional Hazards Model**  
*Statistical Society of Canada Annual Meeting, June 3-6, 2012 at the University of Guelph, Guelph, ON.*
  - **Workshop on Computational Statistical Methods for Genomics and Systems Biology (April, 2011)**  
*CRM, Universite de Montreal*
  - **Penalized Empirical Likelihood Based Variable Selection**  
*Statistical Society of Canada Annual Meeting, June 12-15, 2011 at Acadia University, Wolfville, NS.*
  - **Summer School in Statistics and Probability (June, 2010)**  
*The Department of Mathematics and Statistics, McGill University*
  - **Statistical Modeling of Non-Stationary Carbon Dioxide Emmissions versus Income Data**  
*N. Tharshanna, K. Perera, and R. Shanthini, 6th Annual Research Session, Eastern University, Sri Lanka, 2007*
  - **Workshop on "Actuarial Statistics: Mathematical and Computational Applications" (April, 2006)**  
*Post Graduate Institute of Science, University of Peradeniya, Sri Lanka*
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## Publications

- **Penalized Empirical Likelihood based Variable Selection for Longitudinal Data Analysis**  
*Tharshanna Nadarajah, Asokan Mulayath Variyath, & J Concepción Loredó-Ostí, American Journal of Mathematical and Management Sciences, 2020 (Accepted).*
  - **Subject-Wise Empirical-Likelihood-Based Longitudinal Modelling.**  
*Tharshanna Nadarajah, Asokan Mulayath Variyath, & J Concepción Loredó-Ostí, Open Journal of Statistics, 2020, 10, 611-639.*
  - **Penalized Generalized Quasi-Likelihood based Variable Selection for Longitudinal Data**  
*Tharshanna Nadarajah, Asokan Mulayath Variyath, & J Concepción Loredó-Ostí, Springer Lecture Notes in Statistics, 2016.*
  - **Improving the Students' Learning Process Through the Use of Statistical Applets**  
*Asokan Mulayath Variyath & Tharshanna Nadarajah, Under Review.*
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## Professional Qualifications

- **Professional Skills Development Program (Winter, 2015)**  
*Memorial University of Newfoundland, St. John's, NL*
  - **Graduate Program in Teaching (Winter, 2012)**  
*Memorial University of Newfoundland, St. John's, NL*
  - **Diploma in National Certificate in English for Commerce, Industry and Further Education (2000)**  
*Department of Technical Education and Training Provincial, Sri Lanka*
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## Professional Membership

- **Statistical Society of Canada (SSC)**
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## Scholarships Received

- **School of Graduate Studies, Memorial University of NL, scholarship awarded 2009-2015.**
  - **Statistical Society of Canada (SSC) Student Travel Award. Awarded 2012 and 2014.**
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## Volunteer Experience

- **Library representative for the department of Math. & Stats.**  
*St. Francis Xavier University for the Academic Year 2018 - 2020*
  - **Health and Safety committee for the department of Math. & Stats.**  
*St. Francis Xavier University for the Academic Year 2016 - 2018*
  - **Helping students at the free tutorial given by department of Math & Stats student society**  
*St. Francis Xavier University for the Academic Year 2016 - 2020*
  - **Organizing Open house for the Academic Discipline by Department of Math. & Stats.**  
*St. Francis Xavier University for the Academic Year 2016 - 2020*
  - **Participated for Make Mid-term Matter, Feb. 17, 2015-Eastern Health**  
*Helped to run an afternoon program with residents*  
*Helped residents get to the program and back to their room*  
*General interaction with the residents*
  - **Group Leader, Fall Orientation, Sept. 2014, Memorial Student Affairs and Services.**  
*Organized activities for first year students and their parents*
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- **Blood Drive Volunteer**

*I played a part in the community blood drive*

- **Secretary of the students' Union, Faculty of Science**

*Eastern University Sri Lanka for the Academic Year 2001/2002*

- **Students' Representative to the Faculty Board of Science**

*Eastern University Sri Lanka for the Academic Year 2002/2003*

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## Referees

**Name** Dr. Asokan Variyath  
**Company** Memorial University  
**Position** Associate Professor and  
Dy. Head (Grad. Studies)  
**Contact** variyath@mun.ca  
**Office Phone** (709) 864-6104

**Name** Prof. Joseph Apaloo  
**Company** St. Francis Xavier University  
**Position** Professor  
**Contact** japaloo@stfx.ca  
**Office Phone** (902) 867-5274

**Name** Prof. J.C. Loredó-Osti  
**Company** Memorial University  
**Position** Professor and Chair  
**Contact** jcloredosti@mun.ca  
**Office Phone** (709) 864-8729

**Name** Dr. Ryan Lukeman  
**Company** St. Francis Xavier University  
**Position** Associate Professor  
**Contact** rlukeman@stfx.ca  
**Office Phone** (902) 867-4920

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