

Chaya Weerasinghe

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📍 Department of Infectious Diseases, The University of Melbourne, at the Doherty Institute for Infection & Immunity, VIC 3010, Australia

Curriculum Vitae

July 2026

Education and Qualifications

2021 – 2025	Ph.D. in Econometrics	Monash University, Australia
	Thesis topic:	<i>Inference and Prediction in Misspecified Models</i>
	Details:	This research explores the impact of model misspecification on statistical inference and prediction. Using either Bayesian or frequentist approaches, it develops novel inference and prediction methodologies to address challenges arising from model misspecification, with particular attention given to financial and macroeconomic settings.
	Supervisors:	Emeritus Prof. Gael M. Martin, Assoc Prof. Rubén Loaiza Maya and Prof. David T. Frazier
2015 – 2019	B.Sc.(Hons) in Statistics	University of Kelaniya, Sri Lanka
	Grade:	First Class with GPA of 3.93/4.00

Employment History

2025.09 – Present	Research Fellow (Bayesian Statistics)	Department of Infectious Diseases, The University of Melbourne, at the Doherty Institute for Infection & Immunity, Australia
2025.06 – 2025.09	Research Fellow	Department of Econometrics and Business Statistics, Monash University, Australia
	Details:	Contributed to a short-term research project on the development of a novel estimation framework for multinomial probit models, involving specialised computational techniques and advanced statistical programming
2018.02–2018.06	Intern (Industrial Training)	Department of Statistical Process Control, Ansell Textiles Lanka Private Limited, Sri Lanka
	Duties:	Some of the trained areas include: ● Implementing, enhancing and executing statistical process control system monitoring in Production Manufacturing and Quality Control effectively ● Data mapping, data collection, data wrangling ● Performing statistical analyses to interpret data and support decision-making

Teaching Experience

2023.02 – 2025.09 Teaching Associate

Department of Econometrics and Business Statistics, Monash University, Australia

- Duties: Conducted tutorial sessions for:
- ETC1010/ETC5510 Introduction to Data Analysis
 - ETF3500/ETF5500 High Dimensional Data Analysis
 - ETC2520 Probability & Statistical Inference for Economics & Business

2019.09 – 2021.02 Temporary Lecturer

Department of Statistics & Computer Science, University of Kelaniya, Sri Lanka

- Duties: Conducted lectures for:
- STAT 14552 Statistics for Natural Science
 - COST 21544 Mathematical Foundation I
 - COST 31554 Mathematics for Information Technology
 - COST 22594 Mathematical Foundation III
 - COST 32574 Statistics for Information Technology
- Coordinated and organized the lectures for:
- STAT 32543 Research Methodology, Data Analysis and Report Writing

2019.02 – 2019.09 Temporary Demonstrator

Department of Statistics & Computer Science, University of Kelaniya, Sri Lanka

- Duties: Conducted tutorial sessions for:
- STAT 12542 Optimization I
 - STAT 21522 Optimization II
 - STAT 44093 Econometrics (Practical session)
 - STAT 11521 Statistical Laboratory

Research and Publications

• Published articles and conference proceedings

1. **Weerasinghe, C.**, Loaiza-Maya, R., Martin, G. M., and Frazier, D. T. (2025). ABC-based forecasting in misspecified state space models. *International Journal of Forecasting*, 41(1):270-289.
2. Devi, M., Rahman, U. H., **Weerasinghe, W. P. M. C. N.**, Mishra, P., Tiwari, S., & Karakaya, K. (2022). Future milk production prospects in India for various animal species using time series models. *Indian Journal of Animal Research*, 56(9), 1170-1175.
3. Mishra, P., Matuka, A., Abotaleb, M. S. A., **Weerasinghe, W. P. M. C. N.**, Karakaya, K., & Das, S. S. (2022). Modelling and forecasting of milk production in the SAARC countries and China. *Modeling Earth Systems and Environment*, 1-13.
4. **Weerasinghe, W. P. M. C. N.**, & Jayasundara, D. D. M. (2021). Modelling Pepper Export Income in Sri Lanka Using Deterministic Decomposition and Seasonal ARIMA Models. *Statistics and Applications*, 19(2), 89-100.
5. Chandrasekara, N. V. & **Weerasinghe, W.P.M.C.N.** & Basnayake, B.R.P.M. (2021). Impact of Covid-19 Pandemic on Education and Mental Health of Physical Science Undergraduates in the Faculty of Science, University of Kelaniya. *COVID 19: Impact, Mitigation, Opportunities and Building Resilience "From Adversity to Serendipity", Perspectives of global relevance based on research, experience and successes in combating COVID-19 in Sri Lanka, National science Foundation, Sri Lanka*, pp. 263-273.

6. **Weerasinghe, W. P. M. C. N.**, & Jayasundara, D. D. M. (2020). Modelling and forecasting the unit cost of electricity generated by fossil fuel power plants in Sri Lanka. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, 51(2), 163-178.
 7. Saumyamala, M. G. A., **Weerasinghe, W. P. M. C. N.**, Kumara, J. L. S. M., Sachithra, S. A. L., & Chandrasekara, N. V. (2019). Modelling Open Market Retail Price of Red Onions in Colombo using ARIMA-GARCH Mixed Model. *Proceedings of 12th International Research Conference 2019, General Sir John Kotelawala Defence University, Sri Lanka*, pp. 602-608.
- **Work in progress, under submission or under revision**
 1. **Weerasinghe, C.**, Osowicki, J., Simpson, J. A., Crocker-Buque, T., McCarthy, J., Williams, E., & Price, D. J. (2026). Rationale and guidance for implementing the continual reassessment method for dose-finding in controlled human infection model studies. (Submitted to *Statistics in Medicine*)
 2. **Weerasinghe, C.**, Loaiza-Maya, R., Drovandi, C., & Frazier, D. T. (2025). Robustifying Approximate Bayesian Computation. arXiv preprint arXiv:2504.04733. (Under revision at *Journal of Computational and Graphical Statistics*)

Conferences and Talks

- Contributed talk, A step-by-step guide to implementing a continual reassessment method for dose-finding in controlled human infection models: An application to oropharyngeal gonorrhoea, 2026 Doherty Institute Computational Sciences in Infection and Immunity Symposium, University of Melbourne, Australia, June 02, 2026.
- Invited talk, ABC-based Forecasting in State Space Models, Institute for Mathematical Statistics – Asia-Pacific Rim Meeting (IMS-ARPM) 2024, University of Melbourne, Australia, January 04-07, 2024.
- Invited talk, ABC-based Forecasting in State Space Models, 2023 Workshop in honour of Professors Donald Poskitt and Gael Martin, Monash Conference Centre, Australia, November 29-30, 2023.
- Poster presentation, ABC-based Forecasting in State Space Models, 31st Australia New Zealand Econometric Study Group Meeting, Crowne Plaza Adelaide, Australia, November 16-17, 2023.
- Invited talk, Approximate Bayesian Forecasting in Intractable and Misspecified State Space Models, Satellite Workshop - Bayesian computing without exact likelihoods, Bayes Comp, Levi, Finland, March 12-17, 2023.
- Contributed talk, Modelling and forecasting the income of pepper exports in Sri Lanka, 4th International Research Symposium on Pure and Applied Sciences, Faculty of Science, University of Kelaniya, Sri Lanka, October 25, 2019.
- Contributed talk, Forecasting the unit cost of electricity generated by fossil fuel power plants: A case study of a diesel/heavy fuel oil power plants in Sri Lanka, 12th International Research Conference, General Sir John Kotelawala Defence University, Sri Lanka, September 11-12, 2019.
- Poster presentation, Forecasting the unit cost of electricity generated by fossil fuel power plants: A case study of a diesel/heavy fuel oil power plants in Sri Lanka, 1st National Undergraduate Research Symposium & 3rd Undergraduate Research Symposium, Ruhuna Science Research Circle, University of Ruhuna, Sri Lanka, December 09, 2018.

Awards, Grants and Scholarships

- 2023 Monash Graduate Research Travel Grant
- 2023 Purple Letter (Unit Evaluation of Teaching) for Tutoring ETF3500 2023S2, Monash Business School
- 2023 Purple Letter (Unit Evaluation of Teaching) for Tutoring ETC5510 2023S1, Monash Business School
- 2021 Co-funded Monash Graduate Scholarship, Monash University, yearly from 2021 to 2025
- 2021 Monash Business School Co-funded Graduate Research Scholarship, Monash University, yearly from 2021 to 2025
- 2019 Gold Medal for the best performance in Statistics, Faculty of Science, University of Kelaniya, Sri Lanka
- 2019 Dean's Honour list, Academic Year 2016/2017, Faculty of Science, University of Kelaniya, Sri Lanka
- 2018 Best Abstract Poster, 3rd Undergraduate Research Symposium, University of Ruhuna, Sri Lanka
- 2017 Dean's Honour list, Academic Year 2014/2015, Faculty of Science, University of Kelaniya, Sri Lanka
- 2016 Dean's Honour list, Academic Year 2013/2014, Faculty of Science, University of Kelaniya, Sri Lanka
- 2016 Best Presenter, "Statistics Camp 2016", Department of Statistics & Computer Science, University of Kelaniya, Sri Lanka

Software Skills

- Programming: Proficient in MATLAB, R, MINITAB, SPSS, EVIEWS
- Word processing: Proficient in MS Office, LaTeX
- Other skills: Experienced in high performance computing (HPC)

Referees

Available upon request