

# Curriculum Vitae

Piyadi Gamage Jayani Lakshika  
Department of Econometrics and Business Statistics  
Monash University, Australia

Email: [jayani.piyadigamage@monash.edu](mailto:jayani.piyadigamage@monash.edu), [jayanilakshika76@gmail.com](mailto:jayanilakshika76@gmail.com)  
Website: <https://jayanilakshika.netlify.app/>  
GitHub: <https://github.com/JayaniLakshika>  
LinkedIn: <https://www.linkedin.com/in/jayani-lakshika-9a0297162>

## Education

### **PhD candidate - Statistics**

Faculty of Business & Economics, Monash University, Australia July 2022 —  
Thesis title: New Interactive Visual Tools and Statistical Methodology for Selecting and January 2026  
Evaluating Non-linear Dimension Reduction Layouts of High-dimensional Data

### **B.Sc. (Honours) in Statistics**

University of Sri Jayewardenepura (USJ), Sri Lanka January 2017 —  
Thesis title: Computer Vision System For Automated Medicinal Plant Identification December 2020

### **Diploma in Computer System Design (DCSD)**

National Institute of Business Management (NIBM), Sri Lanka March 2016 —  
March 2017

### **Certificate in Business Accounting**

Chartered Institute of Management Accountants (CIMA), Sri Lanka December 2015  
— September 2016

## Appointments Held

### **Teaching Associate**

Department of Econometrics and Business Statistics, Monash University, Australia January 2023  
—

### **Teaching Assistant (Temporary Instructor)**

University of Sri Jayewardenepura (USJ), Sri Lanka July 2021 —  
July 2022

### **Associate Data Analyst**

Vizuamatix (Pvt) Ltd, Sri Lanka January —  
November 2021

### **Trainee Data Analyst**

Vizuamatix (Pvt) Ltd, Sri Lanka July —  
December 2020

### **Research Internship**

Vizuamatix (Pvt) Ltd, Sri Lanka January —  
Industrial training as a fulfillment of the degree B.Sc. (Honours) in Statistics June 2020

## Publications

### Papers

Gamage, J. P., Cook, D., Harrison, P., & Lydeamore, M. (2025). Stop Lying to Me: New Visual Tools to Choose the Most Honest Nonlinear Dimension Reduction. arXiv preprint [arXiv:2506.22051](https://arxiv.org/abs/2506.22051)

Lakshika, J. P., & Talagala, T. S. (2021). Computer-aided Interpretable Features for Leaf Image Classification. arXiv preprint [arXiv:2106.08077](https://arxiv.org/abs/2106.08077)

### Conference proceedings

Young Scientists' Conference on Multidisciplinary Research (YCMR) abstract publication (ISSN 2815-0260) October 2021

17<sup>th</sup> applied science research poster and abstract publication (Page 74) September 2021

### Conference presentations and contributed talks

**Visualise your fitted non-linear reduction model in high-dimensional space** 2025  
Australian Statistical Conference (ASC 2025) (Perth, Western Australia)

**Visualise your fitted non-linear reduction model in high-dimensional space** 2025  
Biometrics in the Bush Capital (BIBC2025) (Canberra, Australia)

**Visualise your fitted non-linear reduction model in high-dimensional space** 2025  
2025 Joint Statistical Meetings, Nashville, Tennessee, USA

**Generating interesting high-dimensional data structures** 2025  
UseR! 2025, Penn Pavilion, Duke University, Durham, North Carolina, USA

**Visualise your fitted non-linear reduction model in high-dimensional space** 2024  
Data Science Club, University of Nebraska, Omaha (UNO), USA

**Visualise your fitted non-linear reduction model in high-dimensional space** 2024  
Graphics Group, University of Nebraska, Lincoln (UNL), USA

**Visualise your fitted non-linear reduction model in high-dimensional space** 2024  
UseR! 2024, Salzburg, Austria

**Visualising how non-linear dimension reduction warps your data** 2024  
Faculty of BusEco Three Minute Thesis (3MT) competition, Monash University, Australia

**Visualise your fitted non-linear dimension reduction model in the high-dimensional data space** 2024  
Victorian branch of the Australian and New Zealand Industrial and Applied Mathematics Society (VicANZIAMS) 2024 (RMIT university, Melbourne, Australia)

**Visualize your fitted non-linear dimension reduction model in the high-dimensional data space — Invited speaker** 2024  
Bioinformatics Seminar, Monash University, Australia

**With non-linear dimension reduction, when can you believe what you see?** 2023  
Australian Statistical Conference (ASC 2023) (Wollongong, Australia)

<b>Viewing the model from a non-linear dimension reduction in the high-dimensional data space</b> — Invited speaker 12th-Conference of the Asian Regional Section of the International Association for Statistical Computing (IASC-ARS 2023) (Wollongon, Australia)	2023
<b>Higher studies webinar</b> — Invited speaker University of Sri Jayewardenepura (USJ), Sri Lanka	2023
<b>Computer Vision System for Automated Medicinal Plant Identification</b> — Invited speaker NUMBATs meeting, Monash University, Australia	2022
<b>Computer Vision System for Automated Medicinal Plant Identification</b> — <a href="#">Invited speaker</a> Estadistica 2021, the Annual Statistics Day organized by the Statistics Society of University of Sri Jayewardenepura, Sri Lanka	2021
<b>Computer Vision System for Automated Medicinal Plant Identification</b> — <a href="#">Invited speaker</a> Vx Tech Talk 2021, Vizumatix Pvt. Ltd, Sri Lanka	2021
<b>Statistical machine learning for medicinal plant leaves classification</b> — <a href="#">Presentation</a> 17th Applied Statistics Conference, Solvenia	2021
<b>Statistical machine learning for medicinal plant leaves classification</b> — <a href="#">Speed-talk</a> Young Scientists' Conference on Multidisciplinary Research (YSCMR 2021) which is organised by the Young Scientists' Association of the National Institute of Fundamental Studies, Sri Lanka (NIFS-YSA)	2021

## Visiting

<b>Prof. Heike Hofmann, A/Prof. Susan Vanderplas, and Dr. Michelle Graham</b> At the University of Nebraska, Lincoln, USA (six weeks)	October-December 2024
<b>A/Prof. Ursula Laa</b> At the University of Natural Resources and Life Sciences, Vienna (BOKU University), accompanied by Prof. Di Cook, Prof. Eun-Kyung Lee, and A/Prof. Natalia da Silva (one week)	July 2024

## R packages

**[airpurifyr](#)**: Provide an interface to scrape air quality data from <https://openaq.org/>

**[cardinalR](#)**: Collection of data structures.

**[quollr](#)**: Tool to visualise how non-linear dimension reduction warps your data

**[polarisR](#)**: Shiny app to compare models generated with [quollr](#) in high dimensions using different tour methods, featuring interactivity.

**[olympics](#)**: Provide an interface to scrape Olympic data from <https://olympics.com/>

**[MedLEA](#)**: Software which contains information about medicinal plants in Sri Lanka

**[DSjobtracker](#)**: Software which contains what skills and qualifications are required for data science related jobs

## Teaching

### Tutor

[ETC5242] Statistical thinking	2025
[ETC2420] Statistical thinking	2025
[ETC5510] Introduction to data analysis	2024
[ETC1010] Introduction to data analysis	2024
[ETC3250] Introduction to machine learning	2023 — 2024
[ETC5250] Introduction to machine learning	2023 — 2025
[ETC5521] Exploratory data analysis	2023
[STA 326 2.0] R Programming	2022
[STA 213 2.0] Inferential Statistics	2022
[STA 214 1.0] Nonparametric Statistics	2022
[STA 215 2.0] Sampling techniques	2022
[STA 115 1.0] Elements of Sampling	2022
[STA 113 2.0] Descriptive Statistics	2022
[STA 114 2.0] Probability and Distribution Theory I	2022
[STA 224 2.0] Regression Analysis	2021
[STA 225 2.0] Design of Experiments	2021
[STA 226 1.0] Data Analysis II	2021
[STA 123 2.0] Probability and Distribution Theory II	2021
[STA 124 2.0] Data Analysis I	2021
[STA 125 1.0] Statistical Communication	2021

### Workshops

<a href="#">Reproducible Reporting and Research with Quarto</a>	September 2025
<a href="#">Reproducible Reporting, Academic Papers, Presentations and Theses with Quarto</a>	July 2025

## Awards

<b>PhD external experience fund</b> Monash University, Australia	2024
<b>Monash Business School Prestigious International Conference Award</b> Monash University, Australia	2024
<b>Co-Funded Graduate Research Scholarship, Monash Business School</b> Monash University, Australia	2022 — 2026
<b>Diploma in Computer System Design (DCSD)</b> — Gold medalist National Institute of Business Management (NIBM), Sri Lanka	2017
<b>OCTAVE competition</b> — Finalists Research abstract competition organized by OCTAVE company, Sri Lanka	2021
<b>Stat Circle quiz competition</b> — Winners Team member of the winners at inter university quiz competition organized by the Stat Circle Faculty of Science, University of Colombo, Sri Lanka	2018

## Academic Service & Community Engagment

<b>Monash Innovation Guarantee-Postgraduate (MIG-P)</b> — Mentor Monash University, Australia	June 2025
<b>NUMBATs seminar organizer</b> Monash University, Australia	2025
<b>UseR! 2024 Session Chair</b> Conference in Salzburg, Austria	2024
<b>ASC Session Chair</b> Australian Statistical Conference in Wollongong, Australia	2023
<b>WOMBAT tutorials</b> — Helper Monash University, Australia	2022
<b>Statistical Consultancy Service</b> — Department representative University of Sri Jayewardenepura (USJ), Sri Lanka	2020

## Professional Memberships

<b>American Statistical Association (ASA)</b>	2025–
<b>Statistical Society of Australia (SSA)</b>	2022–
<b>R-Ladies Melbourne</b>	2022–
<b>Statistics society</b> University of Sri Jayewardenepura (USJ), Sri Lanka	2017–2022

## References

### **Prof Dianne Cook**

[dicook@monash.edu](mailto:dicook@monash.edu)

<https://www.dicook.org/>

Professor

Department of Econometrics and Business Statistics

Faculty of Business and Economics

Monash University, Australia

### **Dr Michael Lydeamore**

[michael.lydeamore@monash.edu](mailto:michael.lydeamore@monash.edu)

<https://www.michaellydeamore.com/>

Senior Lecturer

Department of Econometrics and Business Statistics

Faculty of Business and Economics

Monash University, Australia

### **Dr Thiyanga S. Talagala**

[ttalagala@sjp.ac.lk](mailto:ttalagala@sjp.ac.lk)

<https://thiyanga.netlify.com>

Senior Lecturer

Department of Statistics

Faculty of Applied Sciences

University of Sri Jayewardenepura, Sri Lanka