

Janith Wanniarachchi

PhD candidate, Monash University: explainable AI and data visualisation

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Profile

Statistician and R developer. I research how to make machine learning explanations visible and trustworthy, and I build open-source software to do it. I have industry experience in Shiny and R package engineering, I teach at Monash, and I have a track record of community talks and workshops.

Education

- 2023 – now **PhD, Econometrics and Business Statistics**, Monash University, Australia
Thesis: *Explaining AI through visual explanations and efficient interpretable models*. Supervisors: Di-
anne Cook, Patricia Menendez, Thiyanga Talagala, Kate Saunders. Australian Government Research
Training Program (RTP) Scholarship.
- 2017 – 2022 **BSc (Honours) in Statistics, First Class**, University of Sri Jayewardenepura, Sri Lanka
Minors in Computer Science and Mathematics. Statistics GPA 3.88; overall GPA 3.82.
- 2013 **Diploma in Web Engineering**, ESOF Metro Campus

Research projects

- Chapter 2 **Visual explanations of XAI explainers**: geometric representations of LIME, SHAP, counterfac-
tuals and Anchors in the data space.
- Chapter 3 **Random seeds and the complexity–parsimony trade-off**: the seed sensitivity of simple neural
networks, with a Shiny teaching tool.
- Chapters 4–6 **kultarr, kumquat and sillysplines**: transparent R implementations of Anchors and LIME, and an
interactive generator for synthetic data.

Publications & presentations

- 2026 **Wanniarachchi, J.** *Visual Explanations of XAI Explainers*. useR! 2026.
- 2023 **Wanniarachchi, J.** *Seeing the Smoke Before the Fire: Visualising Spatiotemporal Indicators of Bush-
fires through Counterfactual Explanations of Machine Learning Models*. 12th IASC-ARS Conference,
Macquarie University, Sydney.
- 2022 **Wanniarachchi, J. C., & Talagala, T. S.** *scatterR: Generating instance space based on scagnostics*.
arXiv:2209.06682. Presented at useR! 2022.
- 2022 Karunanayake, V. J., **Wanniarachchi, J. C.**, Karunanayake, P. N. K., & Rajapaksha, U. U. S. *Intelligent
System to Verify the Effectiveness of Proposed Teacher Transfers Incorporating Human Factors*. ICARC
2022, IEEE. doi:10.1109/ICARC54489.2022.9754089

Software

- Author **kumquat** (CRAN): transparent LIME · **scatterR** (CRAN): scagnostics-driven data generation · **kultarr**:
Anchors in pure R · **sillysplines**: interactive spline data generator
- Contributor **DSjobtracker**, **nic** and **tsdataleaks** (all on CRAN): data curation, colour palettes, and Rcpp perfor-
mance work

Experience

- 2023 – 2024 **Teaching Associate**, Monash University
Tutorials for ETC5523 *Communicating with Data* (Shiny, R packages, storytelling with visualisation)
and ETC5512 *Wild-Caught Data* (collecting and wrangling tabular and geospatial data).
- 2022 – 2023 **R/Shiny Developer**, Appilon
Built Shiny dashboards and provided software engineering support for R package development for
life-sciences clients.

2021 – 2022	Contractor Consultant , labml.ai Analysed online user segments and feature usage, and recorded research paper explainers (e.g. DeepMind’s RETRO).
2020 – 2021	Trainee Data Analyst , Trabeya Built the deduplication component of an automated data-cleaning product and a session-based recommender served through a real-time microservices backend.
2021	Consultant Data Analyst , CreativeHub Built a hypothesis-testing framework and dashboards for Facebook ad campaigns.
2019	Contractor Consultant , Intellimorph Built anomaly detection for robotic process automation and a computer vision system for a robotic hand.
2021	Consultant , Statistical Consultancy Service, University of Sri Jayewardenepura Curated and cleaned the 2021 DSjobtracker data for CRAN.

Awards

2023	United Nations Datathon : 2nd place globally and 1st in the Oceania region (team of five; solar-farm siting web app).
2023	Outstanding Young Researcher / Student Contributed Oral Presentation Award , IASC-ARS 2023.
2022	SLAAS Physical Science Award in Statistics , Sri Lanka Association for the Advancement of Science, for the best BSc Statistics (Hons) research.
2022	useR! 2022 diversity scholarship; top 10 finalist , Octave Advanced Analytics Symposium; nominee for the Most Venerable Sri Sumangala Gold Medal, University of Sri Jayewardenepura.
2017 – 2020	1st runner-up at hackStat 2.0 (2019) and the SLIIT Codefest Datathon (2019); finalist at Data Storm 2.0 (2020) and the Dialog Datathon; honourable mention at the Asia-Pacific Informatics Olympiad (2017); IEEEExtreme 12.0 global rank 487.

Selected talks

2019 – 2026	useR! 2026 · IASC-ARS 2023 · useR! 2022 · Abuja useR Group (2022) · EDEX Expo (2022) · R-Ladies Colombo (2021) · Fundamentals of Data Visualisation and Tableau workshops (2021) · GDG ML Bootcamp (2019) · TensorFlow All Around (2019). Full list at janithwannanetlifyapp.com/talks .
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Leadership & service

2022	Session chair , useR! 2022 (Inference Methods).
2020 – 2021	President , Statistics Society, University of Sri Jayewardenepura. Founded the Pearl Viz data visualisation competition and ran the “Ask the Experts” alumni panel (200+ students) and the Outliers student writing programme.
2019	Head , TensorFlow User Group Sri Lanka. Organised TensorFlow All Around 2019.

Skills

Languages	R (Shiny, package development, S7, Rcpp, tidyverse), Python (PyTorch, TensorFlow), JavaScript/Svelte, SQL, C++
Tools	Quarto, Git, Azure SQL, Google Cloud, Tableau, Power BI
English	IELTS overall 8.0 (Listening 9.0, Reading 9.0)