

NICHOLAS SPYRISON

OBJECTIVE

A position at a forward-thinking company that utilizes and presses my skills: advanced data visualization, machine learning models, dimension reduction, and communicating insight from multidimensional data.

SKILLS

FOCUS	Data vis, dimension reduction, feature engineering, Machine learning & interpretability, Package development
PROGRAMS	R, Python, PowerBI, Excel & VBA, \LaTeX
TOOLS +	Git & GitHub, JSON, REST, docker, agile
DATABASES	Microsoft T-SQL, ORACLE, OLAP/MOLAP, MongoDB
REPORTING	Rmarkdown, Shiny, SSRS, PowerBI, WebFOCUS, Crystal

SOFTWARE (R PACKAGES)

SPINIFEX	Facilitates the manual tour. Provides an interface for composing animated and interactive linear projections to various formats. https://nspyrison.github.io/spinifex/
CHEEM	Given a nonlinear model, calculates the local explanation (SHAP) of each observation. Provides an interactive coordinated views in a shiny application. Novel analysis and visuals to explore the local explanations with the manual tour. https://nspyrison.github.io/cheem/

EDUCATION

DEGREE	Doctorate of Philosophy, Information Technology	Feb 2018 — Pres. (<i>under examination</i>)
UNIVERSITY	Monash University	Melbourne, Australia
FOCUS	Dimension reduction, interactive and dynamic data visualization, machine learning models and interpretability	
THESIS	<i>Interactive and dynamic visualization of high-dimensional data</i>	Link
DEGREE	Bachelor of Science in Statistics	Aug 2008 — May 2012
UNIVERSITY	Iowa State University	Ames, Iowa

WORK EXPERIENCE

JOB TITLE	Various seasonal employment	2018 — Pres. , <i>part time during research</i>
EMPLOYER	Monash University	Melbourne, Australia
PROGRAMS	R, Git, PowerBI, API	
<i>Data fluency instructor:</i> taught various workshops on R, modeling, programming, PowerBI, and Git & GitHub, <i>Teaching assistant:</i> data exploration and visualization & business and economic statistics, <i>Research officer:</i> criminology & human geology data cleaning, analysis, summarization & reporting.		

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🏠 [NSPYRISON.NETLIFY.APP](https://nspyrison.netlify.app) · 🌐 [NSPYRISON](https://nspyrison) · in [NSPYRISON](https://nspyrison) · 🐦 [@NSPYRISON](https://twitter.com/nspyrison)

JOB TITLE	Business Intelligence Developer	2016 — 2018
EMPLOYER	CPI Card Group	Denver, CO
PROGRAMS	T-SQL, SSRS, Crystal, Oracle BICS, Excel	
	Develop mid- and high-abstraction database queries. Database reporting; across 4 reporting platforms. Developed supply chain report enabling a cost reduction of more than \$4M USD within one plant.	
JOB TITLE	Business Intelligence Developer	2015 — 2016
EMPLOYER	UDR Real Estate Investment Trust	Denver, CO
PROGRAMS	T-SQL, SSRS, OLAP/MOLAP, WebFOCUS	
	Query, analysis, & reporting. Organized and conducted transition from WebFOCUS reporting to SSRS. On-call for enterprise-wide ETL process.	
JOB TITLE	Business Intelligence Analyst	2014 — 2015
EMPLOYER	Heartland Financial USA	Dubuque, IA
PROGRAMS	T-SQL, WebFOCUS	
	Database querying, data analysis and enterprise reporting.	
JOB TITLE	Delivery Data Analyst	2013 — 2014
EMPLOYER	IBM — International Business Machines	Dubuque, IA
PROGRAMS	R, Excel, VBA	
	Statistical variance analysis & metric reporting to teams and management. IBM's lean/six sigma methodology, root cause analysis, ETL scripting via VBA macros for about 0.5 FTE savings across the team. Step-wise model selection with dozens of variables, predicting ticket time.	
JOB TITLE	Various seasonal employment	2010 — 2012, part time during education
EMPLOYER	Iowa State University & Ames Laboratory	Ames, IA
	<i>User Interface Developer:</i> Custom R application <i>Laboratory Technician:</i> Superconductivity data measurement and analysis, <i>Physics Tutor:</i> Classical Physics (201) to groups of 5 students.	

HONORS AND AWARDS

Melbourne Datathon 2020, Insights category — 1st place	2020
to Victorian Intraday Electricity Demand Following COVID-19 Restrictions, 1st place of a couple hundred entries.	
	Link
ACEMS Impact and Engagement Award	2018
Creation and sharing of R package spinifex and contributions to tourr .	
UseR2018 Datathon — 3rd place	2018
Animated temporal-geospatial visualization of over 7 million observations of avian sightings, 3rd of 5 teams.	
Nominated for Student Employee of the Year	2011 & 2012
Reliability, quality of work, initiative, professionalism, and uniqueness of contribution to Iowa State University.	
American Legion award	2008
Demonstration of the qualities: courage, honor, leadership, patriotism, scholarship, and service.	

MEMBERSHIP & ENGAGEMENT

Australian Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS)
Statistical Society of Australia (SSA), Victorian branch
American Statistical Association, district 4

DOCTORAL THESIS

- [1] Nicholas S Spyrisson. “Interactive and dynamic visualization of high-dimensional data”. en. PhD thesis. Monash University, Mar. 2022. URL: https://github.com/nspyrisson/thesis_ns/blob/master/docs/thesis_ns.pdf.

JOURNAL ARTICLES

- [2] Nicholas Spyrisson and Dianne Cook. “spinifex: an R Package for Creating a Manual Tour of Low-dimensional Projections of Multivariate Data”. en. In: *The R Journal* 12.1 (2020), p. 243. ISSN: 2073-4859. DOI: 10.32614/RJ-2020-027. URL: <https://journal.r-project.org/archive/2020/RJ-2020-027/index.html> (visited on 10/16/2020).
- [3] Stuart Lee et al. “The state-of-the-art on tours for dynamic visualization of high-dimensional data”. en. In: *WIREs Computational Statistics* (Dec. 2021), p. 21. ISSN: 1939-0068. DOI: 10.1002/wics.1573. URL: <https://onlinelibrary.wiley.com/doi/pdf/10.1002/wics.1573> (visited on 12/10/2021).

SOFTWARE (R PACKAGES)

- [4] Nicholas Spyrisson and Dianne Cook. *spinifex: Manual Tours, Manual Control of Dynamic Projections of Numeric Multivariate Data*. 2021. URL: <https://CRAN.R-project.org/package=spinifex>.
- [5] Nicholas Spyrisson. *cheem: Interactively Explore the Support of Local Explanations of a Model*. 2022. URL: <https://CRAN.R-project.org/package=cheem>.

CONFERENCE PROCEEDINGS

- [6] Nicholas S. Spyrisson. “spinifex: visualizing local structure of higher dimensions”. en. In: Brisbane, Australia, 2018. URL: <https://user2018.r-project.org/poster/> (visited on 07/28/2020).
- [7] Madeleine Barrow, Jieyang Chong, and Nicholas Spyrisson. “Changes to Victorian Intraday Electricity Demand Following COVID-19 Restrictions”. en. In: *Melbourne Datathon 2020, Insights category*. Oct. 2020, p. 4. URL: https://github.com/nspyrisson/melb_datathon2020/blob/master/_paper/paper.pdf (visited on 02/09/2022).
- [8] Nicholas Spyrisson, Benjamin Lee, and Lonni Besançon. “”Is IEEE VIS *that* good?” On key factors in the initial assessment of manuscript and venue quality”. In: *IEEE AltVis Workshop*. type: article. July 2021. DOI: 10.31219/osf.io/65wm7. URL: <https://osf.io/65wm7/> (visited on 08/21/2021).