

Research Experience

2024 – present **University of Texas at Austin**
Postdoctoral Fellow working with Prof. Roger Peng

Education

2020 – 2023 **PhD in Statistics, Monash University**
Thesis: *New tools for visualising and explaining multivariate spatio-temporal data*, supervised by Prof. Dianne Cook, Dr. Patricia Menéndez, Dr. Nicolas Langrené, and Dr. Ursula Laa

2016 – 2019 **BComm(Hons.), Monash University**
Bachelor of Commerce with Honours, First Class Honours (H1)
Thesis: *Exploration of judicial facial expression in videos of legal proceedings*, supervised by Prof. Dianne Cook and Prof. Russell Smyth

Publications

1. **Zhang, H. S.**, Cook, D., Laa, U., Langrené, N., & Menéndez, P. (2024). A Tidy Framework and Infrastructure to Systematically Assemble Spatio-temporal Indexes from Multivariate Data. *Journal of Computational and Graphical Statistics*, 1-19. <https://doi.org/10.1080/10618600.2024.2374960>
2. **Zhang, H. S.**, Cook, D., Laa, U., Langrené, N., & Menéndez, P. (2021). *Visual Diagnostics for Constrained Optimisation with Application to Guided Tours*. *The R Journal*, 13(2), 624–641. <https://doi.org/10.32614/RJ-2021-105>
3. Lee, S., Cook, D., Silva, N. da, Laa, U., Spyrisson, N., Wang, E., & **Zhang, H. S.** (2022). *The state-of-the-art on tours for dynamic visualization of high-dimensional data*. *WIREs Computational Statistics*, 14(4), e1573. <https://doi.org/10.1002/wics.1573>

Accepted:

4. **Zhang, H. S.**, Cook, D., Laa, U., Langrené, N., & Menéndez, P. (2024). *cubble: An R package for organizing and wrangling multivariate spatio-temporal data*. Accepted by the *Journal of Statistical Software*. <https://arxiv.org/abs/2205.00259>

Talks

Invited

Sep 2024	(upcoming) Intl. Conf. on Trends & Perspectives in Linear Stats. Inference (LinStat 2024)	Poprad, Slovakia
Aug 2024	Computational Statistics (COMPSTAT 2024)	Giessen, Germany
Aug 2024	Joint Statistical Meeting (JSM)	Portland, USA
Aug 2024	John M. Chambers Statistical Software Award Talk	Portland, USA
Dec 2023	Computational and Methodological Statistics (CMStatistics 2023)	Berlin, Germany
Sep 2023	Monash Research Tools Workshop	Melbourne, Australia
Nov 2022	CANSSI Ontario Statistical Software Conference	virtual

Contributed

Feb 2023	The Australian Spatial Econometrics and Statistics Workshop	Melbourne, Australia
Nov 2022	Early Career and Student Statisticians Miniconference	virtual
Jun 2022	UseR! 2022	virtual
Jul 2021	UseR! 2021	virtual

Visiting talks

Jan 2024	Humboldt University of Berlin, Faculty of Economics	Germany
May 2023	University of Münster, Institute for Geoinformatics	Germany
Apr 2023	Maynooth University, Department of Mathematics and Statistics	Ireland

Software

Maintainer:

tidyindex	A general data pipeline for computing indexes
cubble	A data structure for organizing and wrangling spatio-temporal data, 52 stars on GitHub
ferrn	Visual diagnostics plots for projection pursuit guided tour optimisation

Contributor:

rj	Tools to help the (associate) editors with the reviewing process of the R journal
rjtools	Tools for authors to write, check, and submit articles to the R Journal, 30 stars on GitHub
tourr	Tour methods for multivariate data visualisation, 62 stars on GitHub

Teaching and Supervision

2024 summer	Co-supervisor for Google Summer of Code R Project: ribbon and segment glyph map
2024 summer	Co-supervisor first year PhD student summer research at University of Texas at Austin

TA for Monash coursework:

2020, 2021	ETC5512 Wild Caught Data
2020, 2021	ETC5521 Exploratory Data Analysis
2019, 2020	ETC1010/ETC5510 Introduction to Data Analysis

Instructor for workshops:

Apr 2023	Switching between space and time: Spatio-temporal analysis with cubble, R Ladies Vienna
Dec 2022	Wrangling spatio-temporal data with R, WOMBAT
Sep 2022	Switching between space and time: Spatio-temporal analysis with cubble, R Ladies Melbourne

Awards

2024	John M. Chambers Statistical Software Award, ASA Section on Statistical Computing
2023	Opportunity scholar, Posit::conf(2023)
2022	People's Choice Award, ECSS Miniconference, Statistical Society of Australia
2020 - 2023	Postgraduate (PhD) Research Scholarship, CSIRO Data61
2020 - 2023	Co-Funded Graduate Research Scholarship, Monash Business School
2020	Dean's Honours List, Monash Business School
2019	Summer Vacation Research Scholarship, Monash University

Service

2024 onwards	Reviewer for the R Journal
2022	Seminar organiser: Monash NUMBATs

Media Coverage

2023	Monash Graduate research impact: Crunching the numbers: How new research has revealed the hidden truth behind indexes
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