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Some biographical detail

I spent my youth living in rural Australia during the 1980s, and have been living in Sydney for the last several years. Professionally I work as a computational cognitive scientist (**djnavarro.net**), building and documenting probabilistic models for human learning and reasoning. More broadly, I spend much of my time on data science writing (e.g. **blog.djnavarro.net**) and artwork (**art.djnavarro.net**).

My PhD was awarded in 2003 by the University of Adelaide, where I was appointed Lecturer in 2006, promoted to Senior Lecturer in 2009 and Associate Professor in 2013. From 2007-2015 I held multiple Australian Research Council Fellowships, prestigious well-funded research positions that are awarded via competitive grant processes. From 2016 have been an Associate Professor at UNSW Sydney.

Coding and workflow

My code is written mostly in R, with a of C++ when speed is necessary. For web programming I rely on javascript, HTML and CSS, and use plumber and Shiny at times when I need web applications to rely on R code. I make extensive use of Hugo and associated literate programming tools in R (blogdown, hugodown, rmarkdown etc), and have experience writing Hugo themes for visual artists (e.g., **djnavarro.net/hugo-diziet**). I've written several R packages (e.g., **bs4cards.djnavarro.net**) and in doing so have become skilled in the use of modern R development tools, version control, and so on.

My scientific work involves data wrangling, analysis, visualisation, and statistical modelling on an everyday basis. For most everyday data cleaning, analysis and visualisation tasks I use **tidyverse** extensively. For modelling work, my workflow is a little more varied: I have some experience using **tidymodels** tools for machine learning in R, and probabilistic modelling toolkit in JAGS and **Stan** to implement Bayesian data analyses.

Technical writing

As an academic, I've written far too many papers in technical journals! Across my career I have written approximately 150 academic papers (**scholar.djnavarro.net**). As an example of my academic writing, a recent paper of mine (**psyarxiv.com/39q8y**) won the 2021 Outstanding Paper award from *Computational Brain and Behavior*.

However, my experience goes beyond than simply writing academic papers. I have written technical books for a broader audience, most notably the award winning **learningstatisticswithr.com** text, and writing several chapters for the forthcoming 3rd edition of *ggplot2: Elegant Graphics for Data Analysis* (**ggplot2-book.org**).

In addition to written communication and reporting skills, my work has required me to become adept at public speaking (e.g., **talks.djnavarro.net/rstudioconf2020**, running small workshops, creating tutorial videos, and teaching formal and informal classes across a wide range of topics.

Training, mentoring, and interpersonal skills

I have been a professional educator since 2006, teaching classes in data science, statistics, cognitive science, and other areas (**djnavarro.net/teaching**). I am a certified tidyverse instructor, the author of an award winning open access statistics textbook, and make course materials publicly available in a variety of formats (e.g., **youtube.com/daniellenavarro77**). I've run summer schools aimed at teaching statistical programming in R to social scientists (**chdsummerschool.com**), and have experience teaching large and small groups.

In addition to university and summer school teaching, I have been privileged to serve as advisor for approximately 40 graduate students, honours students and postdoctoral researchers, who have brought a broad range of interests, nationalities, and skills to the table. I have advised mathematicians, computer scientists, psychologists, statisticians and more. Some are coding experts, others are novices: I am always prepared to meet people where they are, at any stage in their journey. I am endlessly passionate about and experienced in helping them to their next stage, whatever that may be. The happiest moments in my career have come when my former students have

taken on exciting new positions of their own, won awards for work that I advised on, or achieved something they otherwise would not have thought possible.

My experience has been that this work requires teamwork, strong interpersonal skills, and the ability to listen to others with empathy, even when they disagree with me in heated terms. My previous leadership roles on academic committees, formal leadership training, and experience running a research group have all helped me develop these skills, as one might expect. Perhaps less obviously, my life as a parent has taught me a lot about patience, living with ambiguity, and the nature of conflict and diplomacy.

Project management and team building

Across my academic career I have managed a team of researchers that I have funded through national competitive grants and private research contracts (eight major grants and many smaller contracts). Securing this funding requires the ability to develop and implement complex research plans spanning multiple years and coordinating the activities of a team of diverse researchers, building shared goals for a team, and so on.

I have twice been involved in "Centre of Excellence" bids, once as a senior named investigator. These bids are larger scale grants worth tens of millions of dollars over several years. Organising an application is a complex process that requires the co-ordination of multiple universities, companies and government departments. Dozens of academics are typically involved, research agreements are required, and governance structures need to be designed before a bid can be considered. Both bids I was involved in reached the final stage of the selection process, and this work taught me the importance of oversight, governance, and developing organisational structures suited to the context.

Breadth of perspective

A characteristic to how I work is not simply to aim for rigour in what I do, but also to take a broad perspective on science, statistics and how systems operate. This is reflected in academic writing and talks I have given about the nature of science, statistics and inference (e.g., **talks.djnavarro.net/scistat2019**) It has also allowed me the opportunity to take on editorial roles the top journal in science (i.e., **Science**), the top theoretical journal in psychology (**Psychological Review**), and (from 2022) one of the top journals in applied data science (**R Journal**). As a consequence of this editorial work, I have been able to appreciate a wide variety of different scientific perspectives, methods and concepts. This skill is something I hope to bring to any future work I engage in.

Diversity and inclusion

Perhaps unsurprisingly, diversity and inclusion is a subject dear to my heart as a trans woman in academia. During my career I've taken on administrative roles within equity committees, spoken on panels about LGBTIQ inclusion, and at times been a public advocate for transgender inclusion. I cofounded the Sydney R-Ladies chapter (**rladiessydney.org**), and have authored papers articulating a vision for what a truly open and inclusive psychology might look like (**psyarxiv.com/gdzue**). Though this work is difficult, it is incredibly rewarding.

Part of my drive to do this work stems from my own hope to see a better world: I view diversity and inclusion as an inherent good, to be valued for its own sake. This perspective leads to practical consequences and policy implications at an institutional level: when an organisation omits or ignores the perspectives of marginalised populations it tends to perpetuate and perhaps exacerbates existing problems. Diversity helps an organisation avoid these mistakes, and in doing so contribute more effectively to the public good.