Nicholas S Spyrison

curriculum vitae

Build a culture of stopping to fix problems, to get quality right the first time.
—Principle 5, The Toyota Way

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G Google Scholar

Education

Ph.D. Information Technology,   2018 – *Q3/4 2021 (expected)*
Monash University, Clayton, VIC. Australia,
Multi-variate data visualization.

B.Sc. Statistics,   2008 – 2012
Iowa State University, Ames, IA. USA,
Minors: physics and mathematics.

Doctoral thesis

Topic: *Interactive and animated visualization of multivariate data via low-dimensional projections, as embedded and viewed in stereoscopically-true 2D and 3D.*

Supervisors:
    Professor Kimbal Marriott, research.monash.edu,
     Department of Human-Centred Computing
    Professor Dianne Cook, dicook.org,
     Department of Econometrics and Business Statistics

Experience

Teaching assistant, data exploration and visualization,   2020 – 2020
Monash University.

Research officer, human geology,   2019 – 2019
Monash University.

Teaching assistant, business and economic statistics,   2018 – 2019
Monash University.

Research officer, criminology,   2018 – 2018
Monash University.

Business Intelligence Developer,   2016 – 2018
CPI Card Group.
- Develop mid- and high-abstraction *T-SQL* queries
- Database reporting; across 4 reporting platforms (SSRS, Crystal, Oracle BICS, Excel) and 4 database instances
- Developed supply chain report tracking and feeding a cost reduction of more than $4M USD within one plant

Business Intelligence Developer,   2015 – 2016
UDR Real Estate Investment Trust.

- Develop high abstraction level *T-SQL* development
- Database reporting; *SSRS*
- On-call for enterprise-wide ETL process

Business Intelligence Analyst,   2014 – 2015
Heartland Financial USA.

- Database reporting

Laboratory Technician,   2014 – 2014
The Ames Laboratory & Iowa State University;
Department of Physics & Astronomy.

Superconductivity & Magnetism Low-temperature Laboratory, physics.iastate.edu/

Delivery Analyst,   2013 – 2014
IBM – International Business Machines.

- IBM's lean/six sigma green belt, root cause analysis (RCA)
- ETL scripting via VBA macros for greater than 1 FTE savings across team

User Interface Developer,   2012 – 2012
Iowa State University; Department of Statistics.

Laboratory Technician,   2010 – 2012
The Ames Laboratory & Iowa State University;
Department of Physics & Astronomy.

Superconductivity & Magnetism Low-temperature Laboratory, physics.iastate.edu/

Physics Tutor,   2010 – 2012
Iowa State University.

Software

R stats: Advanced; package author, academic publications, shiny applications, and blogdown websites

T-SQL: Intermediate, medium to high abstraction, *Esp.* 2012, 2016, SSMS, SSRS

Excel: Power user; macros, VBA, complex analysis and reporting

LaTeX: Intermediate; especially for journal articles, and *Esp.* indirectly through the markup language, rmarkdown

Awards and honors

Melbourne Datathon 2020, Insights category – 1st place,   2020
Changes to Victorian Intraday Electricity Demand Following COVID-19 Restrictions, github.com .

ACEMS Impact and Engagement Award,   2018
Creation and sharing of R package {spinifex} and contributions to {tourr}.

UseR2018 Datathon – 3rd place,   2018
Consumption, modeling, and visualization of over 7 million observations of avian sightings.

Nominated for Student Employee of the Year,   2012
Reliability, quality of work, initiative, professionalism, and uniqueness of contribution to Iowa State University.

Nominated for Student Employee of the Year,   2011
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 & community

CHI Down Under May 2020, online conference, Student Volunteer
UseR! July 2018, conference - Brisbane, Australia., Student Volunteer
Australian Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS)
Statistical Society of Australia (SSA), Victorian branch
American Statistical Association, district 4
Melbourne Users of R Network (MelbURN)
R-Ladies Melbourne
Denver R User Group
Denver SQL Server User Group
The R-podcast
Not so standard deviations (R podcast)
Credibly Curious (R podcast)

Software (R package)

[2] N. Spyrison and D. Cook, *Spinifex: Manual tours, manual control of dynamic projections of numeric multivariate data*, version 0.2.7, 2020. [Online]. Available: `https://github.com/nspyrison/spinifex/`.

Conference in presentations

[5] K. Cho, M. A. Tanatar, N. Spyrison, H. Kim, R. Prozorov, G. Tan, J. Yan, P. Dai, and C. Zhang, "Doping-dependent anisotropic superconducting gap in na $\_$ ${$1-$\backslash$delta$}$ $ FeAs and NaFe $\_$ ${$1-x$}$ $ co $\_x$ as pnictides," presented at the APS March Meeting 2012, Publisher: APS, Boston, Massachusetts: Bulletin of the American Physical Society, 2012.

[8] N. Spyrison, M. A. Tanatar, K. Cho, E. Blomberg, G. Tan, J. Yan, P. Dai, C. Zhang, and R. Prozorov, "Oxidative deintercalation of single crystal na $\_$ ${$1-$\backslash$delta$}$ $ FeAs upon interaction with the environment," presented at the APS March Meeting 2012, Publisher: APS, Boston, Massachusetts: Bulletin of the American Physical Society, 2012.

[10] M. A. Tanatar, N. Spyrison, K. Cho, G. T. Tan, J. Q. Yan, P. C. Dai, C. L. Zhang, and R. Prozorov, "Temperature-dependent resistivity in single crystals na $\_$ ${$1-$\backslash$delta$}$ $ fe $\_$ ${$1-x$}$ $ co $\_x$," presented at the APS March Meeting 2012, Publisher: APS, Boston, Massachusetts: Bulletin of the American Physical Society, 2012.

[12] N. Spyrison, P. Prommapan, H. Kim, J. Maloney, G. E. Rustan, A. Kreyssig, A. I. Goldman, and R. Prozorov, "Development of a tunnel diode resonator technique for magnetic measurements in electrostatic levitation chamber," presented at the APS March Meeting 2011, Dallas, Texas: Bulletin of the American Physical Society, 2011.

Journal articles

[1] N. Spyrison and Cook, Dianne, "Spinifex: An r package for creating a manual tour of low-dimensional projections of multivariate data," *The R Journal*, vol. 12, no. 1, (accepted), 2020.

[3] H. Kim, M. A. Tanatar, W. E. Straszheim, K. Cho, J. Murphy, N. Spyrison, J.-P. Reid, B. Shen, H.-H. Wen, and R. M. Fernandes, "Competition between superconductivity and magnetic/nematic order as a source of anisotropic superconducting gap in underdoped ba 1- x k x fe 2 as 2," *Physical Review B*, vol. 90, no. 1, p. 014 517, 2014, Publisher: APS.

[4] M. A. Tanatar, W. E. Straszheim, H. Kim, J. Murphy, N. Spyrison, E. C. Blomberg, K. Cho, J.-P. Reid, B. Shen, and L. Taillefer, "Interplane resistivity of underdoped single crystals (ba_{1-x}k_x)fe_2as_2 (0 x 0.34)," *Physical Review B*, vol. 89, no. 14, p. 144 514, 2014, Publisher: APS.

[6]   K. Cho, M. A. Tanatar, N. Spyrison, H. Kim, Y. Song, P. Dai, C. L. Zhang, and R. Prozorov, "Doping-dependent anisotropic superconducting gap in na 1- (fe 1- x co x) as from london penetration depth," *Physical Review B*, vol. 86, no. 2, p. 020 508, 2012, Publisher: APS.

[7]   G. E. Rustan, N. Spyrison, A. Kreyssig, R. Prozorov, and A. I. Goldman, "Noncontact technique for measuring the electrical resistivity and magnetic susceptibility of electrostatically levitated materials," *Review of Scientific Instruments*, vol. 83, no. 10, p. 103 907, 2012, Publisher: American Institute of Physics.

[9]   N. Spyrison, M. A. Tanatar, K. Cho, Y. Song, P. Dai, C. Zhang, and R. Prozorov, "Environmental stability and anisotropic resistivity of co-doped na 1- fe 1- x co x as," *Physical Review B*, vol. 86, no. 14, p. 144 528, 2012, Publisher: APS.

[11] M. A. Tanatar, N. Spyrison, K. Cho, E. C. Blomberg, G. Tan, P. Dai, C. Zhang, and R. Prozorov, "Evolution of normal and superconducting properties of single crystals of na 1– FeAs upon interaction with environment," *Physical Review B*, vol. 85, no. 1, p. 014 510, 2012, Publisher: APS.

[13] N. Spyrison, P. Prommapan, H. Kim, J. Maloney, G. Rustan, A. Kreyssig, A. Goldman, and R. Prozorov, "Development of a tunnel diode resonator technique for magnetic measurements in electrostatic levitation chamber," Mar. 1, 2011.