Nicholas Spyrison

Curriculum Vitae
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Department of Econometrics & Business Statistics,
Monash University, VIC 3145, Australia.
nspyrison.netlify.com
+61 (4) 2277 0555
Nicholas.Spyrison@monash.edu
@nspyrison
nspyrison
nspyrison

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Education

2018–*2021* *Ph.D. Informaiton Technology* — Monash University, Clayton, VIC, AUS
Thesis: New Tools for User-guided Exploration of Linear Projections

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

Employment

2020–2020 Teaching assistant, data exploration and visualisation – Monash University

2018–2018 Research officer, Human geology – Monash University

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

2018–2019 Research officer, Criminology – Monash University

2016–2018 **Business Intelligence Developer** – CPI Card Group Inc.
T-SQL - 2012 (SSMS, SSRS), R language, GitHub, Crystal Reports, Oracle BICS, Excel
- Supply chain reporting leading to more than $4 M USD cost reduction
- T-SQL development – mid-high level abstraction
- 4 reporting tools across multiple db instances

2015–2016 **Business Intelligence Developer** – United Dominion Realty Trust Inc. (UDR)
T-SQL - 2012 & 2016 (SSMS, SSRS, SSAS - MOLAP Cube), PowerBI, WebFOCUS – 8.0+, Excel
- T-SQL development – high level abstraction
- 3 reporting tools across several db instances
- On-call for enterprize-wide ETL process

2014–2015 **Business Intelligence Analyst** – Heartland Financial USA Inc.
WebFOCUS – 8.0+, Excel
- T-SQL development – high level abstraction

2014–2014 **Laboratory Technician** – The Ames Laboratory & Iowa State University
CAD Inventor, LabVIEW, Excel

2013–2014 **Delivery Analyst** – International Business Machines Cooporation (IBM)
Excel, VBA, R language
- Weekly metric/KPI presentations to lower and mid managment
- IBM's process improvement methodology, root cause analysis, process behavior analysis
- Weekly metric/KPI presentations to lower and mid managment
- ETL scripting in VBA for greater than 1 FTE savings across the team

2012–2012 **User Interface Developer** – Iowa State University
R language, GitHub, Linux Shell

2010–2012 **Laboratory Technician** – The Ames Laboratory & Iowa State University
CAD Inventor, LabVIEW, LaTeX, Excel

2009–2009 **Physics Tutor** – Iowa State University
- Classical physics I & II with calculus

Honors and awards

2018 ACEMS Impact and Engagement Award

2018 UseR 2018! Datathon, third place

2012 LOOK UP ISU AWARDS AND HONORS HERE – SEVERAL

2009 LOOK UP ISU AWARDS AND HONORS HERE – SEVERAL

2008 American Legion award

Research summary

➤ Visualization of multivariate spaces

  - Between 2018 and 2021 (expected) I researched high dimensional visualization espically trough animates across changing bases with various vizualization tours
  - One Accepted publication, one R package publication
  - Another 3 publications in the pipeline

➤ Consensed mater physcis (CMP),

  - Between 2009 and 2014 I researched pnictide superconductors (iron-based, type II superconductors)
  - 6 publications across various composistions and dopings
  - Drafting and fabrication of fabricated tunnel-diode resonators with 0.01ppm sensitivity for contactly resistivity mesurments
  - Cryogenic application up to and including including vacuum turbo-pumped, He3 systems

Membership

➤ 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)
➤ Denver R User Group
➤ Senver SQL Server User Group
➤ R-Ladies Melbourne
➤ Not so standard diviations (R podcast)
➤ The R-podcast
➤ Credidibly Curious(R podcast)

Publications

Visualization of multivariate spaces

bibtype Software not implemented
[2] N. Spyrison and Dianne Cook. “spinifex: An R Package for Creating a Manual Tour of Low-dimensional Projections of Multivariate Data”. In: *The R Journal* 12.1 (2020), p. (accepted).

Superconductors, condensed matter physics

[1] K. Cho, M. A. Tanatar, N. Spyrison, et al. “Doping-dependent anisotropic superconducting gap in Na 1- Î´ (Fe 1- x Co x) As from London penetration depth”. In: *Physical Review B* 86.2 (2012). Publisher: APS, p. 020508.
[2] H. Kim, M. A. Tanatar, W. E. Straszheim, et al. “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”. In: *Physical Review B* 90.1 (2014). Publisher: APS, p. 014517.
[3] G. E. Rustan, N. S. Spyrison, A. Kreyssig, et al. “Noncontact technique for measuring the electrical resistivity and magnetic susceptibility of electrostatically levitated materials”. In: *Review of Scientific Instruments* 83.10 (2012). Publisher: American Institute of Physics, p. 103907.
[4] N. Spyrison, M. A. Tanatar, K. Cho, et al. “Environmental stability and anisotropic resistivity of Co-doped Na 1- Î´ Fe 1- x Co x As”. In: *Physical Review B* 86.14 (2012). Publisher: APS, p. 144528.
[5] M. A. Tanatar, N. Spyrison, K. Cho, et al. “Evolution of normal and superconducting properties of single crystals of Na 1â€“Î´ FeAs upon interaction with environment”. In: *Physical Review B* 85.1 (2012). Publisher: APS, p. 014510.
[6] M. A. Tanatar, W. E. Straszheim, H. Kim, et al. “Interplane resistivity of underdoped single crystals (Ba_{1-x} K_ x)Fe_2As_2 (0 â‰¤ x â‰¤ 0.34)”. In: *Physical Review B* 89.14 (2014). Publisher: APS, p. 144514.