John Worrall

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Aspiring applied Mathematician with research interests in intersecting fields of dynamic systems, computational statistics and probability. Currently 1st year PhD student at QUT, covering a range of issues: **variational Bayesian inference**, **online learning, sequential statistics, stochastic optimisation, distributed computation, probabilistic** and **approximating techniques**. Over 13 years' industry experience in data (spatial & non-spatial) cleaning, storing and analysing for informed decisions. With a focus on automating workflow and infrastructure to minimise cost and improve accuracy.

Experience

Principle Analyst - **DTMR.** Brisbane, 11/18 - Current
Develop and deploy real time incident reporting application for traffic operators. Infrastructure as code with CI/CD pipelines on AWS platform for scalable backend and flexible frontend. Manage team and lead a piloted cloud project for Department of Transport Main Roads. (Python, JS, Postgres-RDS, lambda, S3, Athena)

Senior Analyst - **DTMR.** Brisbane, 7/18 - 11/18
Deliver quality data analytics via develop models to provide high quality analysis of complex datasets and use a variety of geospatial, analytical and presentation tools. (Python, Alteryx, Tableau, AWS, Postgres)

Analyst - **DTMR.** Brisbane, 11/17 - 7/18
Modeling and visualization for decision making including road maintenance program. Winner of customer focus KPMG hackathon. (Alteryx, Tableau, Python, Postgres, R)

Freelancer – messanalytics.org. Independent, 01/16
Communicate mathematical concepts clearly and concisely, addressing individual student strengths and weaknesses. (10-12 Math B, C, undergraduate Algebra & Calculus

Spatial Analyst - **DTMR.** Brisbane, 1/12 - 11/17
Managing geospatial distributed customizable code, in-depth modeling and presentation on a number of projects. (C#, PyQGIS, ArcPy, Mapbasic, PLSQL, FME, Batch, Powershell, LAStools)

Spatial Scientist - DTMR. Rockhampton, 1/07 - 11/12
Design and develop programs and scripts for automation, completion of graduate program. (Python, C#, Mapbasic, MsAccess, VBA)

Education

PhD Student in Computational Statistics | QUT expected by 2023
MSc Mathematics Applied | USQ, 2018
BSc Mathematics | USQ, 2016
BSc Spatial Science Honours | USQ, 2013

Qualifications

AWS Developer associate certification, GISP–AP

Publications

Worrall, John (2012), *Assessing Rockhampton City 2011 Flood Extents and Impacts using Remote Sensing and GIS*, USQ Research 2011. Spatial Science Symposium 2012.
Worrall, John (2018), *An ensemble-ANFIS and a hybrid SOM-ANFIS based model for stock market variable forecasting*, USQ Research 2018.
Worrall, John (2020), *Road incident and traffic monitoring in low latency environment for intelligent decision making*, ITS Asia Pacific Conference 2020, Brisbane, Australia. (Conference canceled, COVID-19)