

# John Worrall

Ascot, QLD, Australia | [john.a.worrall@gmail.com](mailto:john.a.worrall@gmail.com) | <https://johnworrall.com.au>

Aspiring applied Mathematician with research interests in intersecting fields of dynamic systems, probability, and programming. Currently a 1st year PhD student at QUT applying computational statistical methods to provide more informed decision making, covering a range of issues: **point process, variational inference, online/sequential methods, stochastic processes, distributed computation, probabilistic and approximating** techniques. Over 13 years' industry experience in data cleaning, storing, analyzing and presenting for improved decisions making. With a focus on automating workflow and infrastructure to minimise cost and improve accuracy.

## Experience

**Principle Analyst** Department of Transport Main Roads (DTMR). 11/18 - 6/20  
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. (*AWS, Python, JS, Postgres*)

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

**Freelancer** [messanalytics.org](http://messanalytics.org). 1/16 - current  
Communicate mathematical concepts clearly and concisely, addressing individual student strengths and weaknesses. (*10-12 Math B, C, undergraduate Algebra & Calculus*)

**Spatial Analyst** DTMR. 1/12 - 11/17  
Managing geospatial distributed customizable code, in-depth modeling and presentation on a number of projects. (*Python, VB, C/C++, SQL, FME, Batch, Powershell*)

**Spatial Scientist** - DTMR. 1/07 - 11/12  
Design and develop programs and scripts for automation, completion of graduate program. (*Python, VBA, C/C++, SQL, Access*)

## Education

**PhD.** Student in Mathematics Sciences | QUT expected by 2023

**MSc. Mathematics** Applied | USQ, 2018

**BSc. Mathematics** | USQ, 2016

**BSc. Spatial Science** Hons | 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)