

Ashley Wright

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Experienced data scientist with a PhD in optimisation and modelling and experience in academia, consulting, and financial services. Over 8 years experience delivering quantitative and qualitative data based solutions and insights using an engineers analytical mindset, mathematics, and statistics.

KEY SKILLS

Advanced Analytics

- **Natural Language Processing** – Classified call centre operator logs to determine key topics and reasons for cohorts of customers who called a major Australian Bank's call centre using Latent Dirichlet Allocation.
- **Monte Carlo Simulation** – Improved flood forecasting capability by 7.1% for a selection of Australian catchments using advanced mathematics and analytical methods that involved millions of data points.

Programming

- **Python** – Enhanced quantitative electricity demand forecasts by 5.1% through training the Long Short-Term Memory (LSTM) and Multilayer Perceptron (MLP) neural network machine learning models using Python.
- **SQL** – Designed database schema which enhanced a major Australian Bank's capability to extract valuable insights for customers and accounts belonging to different business units. Experience working across Redshift, Teradata, Oracle, MS SQL, and PostgreSQL databases.
- **Spark** – Collated and extracted data according to business rules and metrics needed for a component of a major Australian Banks enterprise wide risk assessment using Spark, SparkSQL and AWS EMR. Ability to build Machine Learning pipelines using Spark and PySpark.
- **R** – To perform statistical analysis on datasets, automate the connection of multiple data sources, extract, clean, transform and load data into a unified database which is fed into a PowerBi dashboard.

Communication

- **Stakeholder management**– Engaged with head of business units to identify pain points and develop tactical analytical solutions which enhanced a major Australian bank's knowledge of their customers and accounts.
- **Stakeholder presentations** – Delivered articulate and analytical presentations and reports, which focused on delivering key metrics to business stakeholders.
- **End to end project delivery** – Ran 5 collaborative, innovative, and interactive workshops with research and government partners in Australia and Indonesia that enhanced awareness of flood mitigation measures.

Business Acumen

- **Strategic thinking** – Used critical thinking and analytical skills to deliver valuable insights in a limited time frame, identify gaps in business knowledge which add value, identify barriers to success, gain the necessary knowledge required to overcome barriers, execute on business plans, and communicate key insights.
- **Business areas and interconnection** – Demonstrated ability to work independently and as part of a collaborative team through involvement in agile projects which iterate through solutions based on feedback from business stakeholders.
- **Financial elements** – Involved in developing budgets for grant proposals, hardware, and conference expenses.
- **Leadership** – Utilised good leadership skills to effectively upskill data analysts, new starters, research assistants, and organise and run more than 5 workshop sessions.

Technologies

- **Git/GitHub** – Collaboratively developed and reviewed code to enhance auditability, re-use and productionisation.
- **Cloud Computing** – Reduced time to insight delivery from big data sets using spark sessions in AWS EMR.
- **Microsoft Office** – Used Excel, Word, and PowerPoint to deliver key findings.

PROFESSIONAL CAREER

PwC

Feb 2021 - Current

2021 Leader in Artificial Intelligence as ranked by Forrester

Data Scientist - Financial Services

Accountable for meeting and exceeding project deliverables as set out by clients. Engage with business stakeholders to co-develop valuable analytical solutions. Collaborate in agile teams to iteratively deliver advanced analytical solutions which include a dynamic analysis of account activity and churn status, segmentation of customers into cohorts for migration and performing strategic prototyping analytics to enhance a major Australian Bank's enterprise wide risk assessment .

- Work on cross functional teams to segment customers into cohorts based on suitability for opt-in, early, late, and forced migration to a new technology stack.
- Engage stakeholders to validate business rules and logic for an enterprise wide risk assessment.
- Develop risk assessment metrics from big data using SQL, Python, Spark, PySpark and AWS EMR.
- Design a SQL database which captures customer and account details from multiple data sources.
- Deliver a PowerBI dashboard to heads of business that enhances their ability to make data driven decisions.
- Upskill and lead data analysts to improve their communication and technical skills.
- Perform topic modelling using advanced analytic techniques to understand reasons for customer calls.
- Built great working relationships with clients which led to increased adoption and further engagements.

Monash University

Mar 2014 - Feb 2021

Ranked 64th globally in the Times Higher Education World University Rankings 2021

Research Fellow - Flood Modeling and Analytics (Mar 2014 - Feb 2021)

Accountable for improving forecast skill using satellite data and developing analytical flood mitigation scenarios for the Indonesian City of Bogor's (population 1.2m). Collaborate with team members to improve forecasting capability at large Australian government organisations to mitigate against the \$377m annual cost of flood damages and deliver flexible roadmaps to aid Bogor in their water sensitive transition.

- Improved forecasting skill by 7.1% by developing innovative methods to optimise inputs.
- Engage with end-users and stakeholders to ensure research tasks are aligned with strategic priorities.
- Presented insights on innovative methodologies to optimise rainfall inputs used in flood forecasts in the USA.
- Collaborate with external agencies to incorporate models into a national water forecasting platform.
- Embraced fundamental agile concepts by iteratively improving research outcomes.
- Deliver flood forecasting model development guidelines to end-users.
- Develop and deliver lectures on quantitative modeling.
- Comparing the capability of machine learning models with process-based models to forecast floods.
- Adapted to stakeholder needs and organised workshop sessions which used an innovative interactive app to assess stakeholder receptivity towards mitigation options. Insights were presented in Italy.
- Led and managed 3 research assistants.

EARLIER CAREER

Research Scientist	Metropolitan Fire Brigade	Feb 2016 - May 2016
Teaching Associate	Monash University	Mar 2014 - Sep 2017
Civil Engineer	Breese Pitt Dixon	Jan 2012 - Mar 2014

QUALIFICATIONS

Qualification	Institute	Majors	Awards/Medals	Dates
Doctor of Philosophy	Monash University	Hydrology	Eric Laurenson	Mar 2014-Sep 2017
Bachelor of Engineering	Monash University	Civil Engineering	First Class Honours	Mar 2007- Nov 2012
Bachelor of Science	Monash University	Maths & Physics		Mar 2007 - Nov 2010