

# Conor R. O'Neill

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## EXPERIENCE

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conor.ai (My website)

Worldwide

*Freelance Data Scientist*

*Mar 2019 – Present*

- Freelance data science work with people and companies around the world.

SOOW (Early-stage tech start-up)

Brisbane, Australia

*Lead Data Scientist*

*Jul 2018 – Apr 2019*

- Spearheaded flagship customer segmentation project with largest client.
- Coordinated and executed multi-organisation data collation effort to create industry-first high-value dataset.
- Conducted analysis for SOOW Ventures (venture capital arm) to aid opportunity assessment for investment candidates.
- Analytics SME - Provided strategic advice for company/C-suite; Developed and vetted new projects, client requirements, and statements of work.
- Ceased employment due to liquidation of company.

FLIGHT CENTRE TRAVEL GROUP (\$20 billion turnover global travel company, ASX100)

Brisbane, Australia

*Data Scientist, Central Intelligence and Analytics*

*Feb 2016 – Jul 2018*

- Global Award Winner for Outstanding Achievement (highest honour awarded by company).
- Led project of cross-disciplinary stakeholders and team of 10 to insource specialist 3<sup>rd</sup> party, producing new product suite for \$2M p.a. marketing function.
- Automated full marketing analytics pipeline, including customer behaviour modelling, targeted marketing request processing, campaign reporting and ETL. This reduced expenditure by \$600K and 1.5 FTEs annually, increased FCTG's innovative capabilities, and improved marketing transparency, adaptability and KPI oversight.
- Instrumental in online booking fee adjustment that saw a 23% increase in bookings and 8% increase in profit in first 6 months, providing strategic advice, tools for forecasting impact of changes, idea/impact validation and monitoring.
- Analysed and proposed new impact-optimised strategy for \$7.2M p.a. online paid search function.
- Deep-dive statistical analysis on insurance product, identified key drivers/predictors, and projected sales distributions for new insurance product.
- Utilised cutting-edge time-series modelling algorithms to forecast top-line KPIs from store level to overall brand, enabling better oversight and decision making by GMs.
- Orchestrated partnership with university to hire and supervise interns, who delivered new income generating and KPI forecasting proof of concepts.
- Regularly employed typical data science skills/activities across the full pipeline:
  - Business elicitation (problem identification, root-cause analysis, stakeholder engagement);
  - Data extraction (ETL, querying, SSIS);
  - Data cleansing (assumption testing, outliers, transformations, manipulations);
  - Analysis (experimental design, feature engineering, regression, classification, machine learning, statistical testing); and
  - Communication (visualisation, dashboards, reports, workshops, presentations)using R, SQL, and Excel for daily drivers, with datasets up to 1Tb and 4B rows in size.

GEMINI OBSERVATORY – NORTH (World leading astronomical observatory)

Hilo, Hawai'i, USA

*Astrophysicist*

*May 2015 – Sep 2015*

- Computationally detected, analysed, and derived properties of galaxies in very distant galaxy supercluster, resulting in over 1,200 publication-ready galaxies.
- This work is currently in the publication peer-review process with a leading astrophysics journal.

GEMINI OBSERVATORY – SOUTH (World leading astronomical observatory)

La Serena, Chile

*AGUSS Research Fellow*

*Dec 2014 – Feb 2015*

- 1 of 2 undergraduates selected nation-wide for prestigious fellowship.
- Used Python and specialist software to detect, analyse, and create largest & highest quality dataset in existence of Globular Clusters in Coma cluster.
- This work has been published with a leading astrophysics journal.

LAWRENCE BERKELEY NATIONAL LABORATORY (World leading scientific institution)

Berkeley, California, USA

*Undergraduate Researcher; Cosmology and Astrophysics*

*Aug 2012 – Feb 2013*

- Developed software to extract and reduce online astrophysical data.
- Evaluated data, assembled list of desired targets for follow-up observation.
- Analysed results using specialist software and classified supernova spectra.
- Multiple discoveries published in The Astronomer's Telegram.

THE UNIVERSITY OF QUEENSLAND (Top 50 University worldwide)

Brisbane, Australia

*Undergraduate Researcher, Cosmology and Astrophysics*

*Nov 2011 – Jul 2015*

- OzDES Dark Energy Survey: Chief Redshift Whip – Organised collaboration-wide effort to measure parameter (redshift) in data. Conducted quality control, cleaning of data, and analysis. Created varied strategy models, predicted expected future outcomes. Determined optimum observation strategy, recommended to collaboration. Many published astrophysical journal articles and Astronomer's Telegrams.
- WiggleZ Dark Energy Survey: Queried, extracted, cleaned, analysed, compared, interpreted data on galaxies from multiple astrophysical surveys. Used artificial neural networks to improve upon results of the prediction survey.

## EDUCATION

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THE UNIVERSITY OF QUEENSLAND (Top 50 University worldwide)

Brisbane, Australia

*Bachelor of Science with Honours (Extended Major in Physics)*

*Feb 2011 – Dec 2014*

- Thesis Title: *Cosmological Investigations: Optimising novel observation techniques in OzDES and examining the precision of cosmological probes.*
- Cumulative GPA: 6.33/7.00
- Study Abroad: UNIVERSITY OF CALIFORNIA AT BERKELEY (Top 10 University worldwide)
- Dean's List x4
- University speaking awards x3

## SELECTED LEADERSHIP AND MENTORING ROLES

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- 2017 Diploma of Leadership and Management – Franklyn Scholar (sponsored by employer Flight Centre Travel Group)  
Emerging Leader Program – FCTG  
iTrack Mentor – The Smith Family
- 2016 Advisory Board Member – UQ Young Alumni  
Mentor – Youth Without Borders
- 2015 Astronomer in Residence at Uluru (public outreach) – CAASTRO
- 12–15 Teaching Assistant/Tutor to 400+ University students in 20 classes in 5 STEM subjects
- 2014 Chief Redshift Whip – OzDES (dark energy survey with ~60 members, 5 countries)  
UQ Student Summit Representative  
Delegate – National Student Leadership Forum in Canberra (represented UQ)
- 2013 Mentor – Faculty of Science
- 2012 Mentor – Advanced Study Program in Science

## SELECTED AWARDS AND RECOGNITIONS

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- 2018 Global Award Winner for Outstanding Achievement (highest honour awarded by company) – Flight Centre Travel Group
- 2016 Business Transformation Inspiration Award – Flight Centre Travel Group
- 2014 UQ Future Leader – Class of 2014 (graduating Honours degree)  
Australian Gemini Undergraduate Summer Studentship (AGUSS) – Awarded to two students Australia wide  
UQ Advantage Award
- 2013 UQ Future Leader – Class of 2013 (graduating Bachelor's degree)  
UQ Excellence in Tutoring award, School of Mathematics and Physics
- 2012 UC Berkeley Scholarship awarded by D.E.E.W.R (Australian Government Department)
- 2011 UQ Summer Research Scholarship

## PUBLICATIONS

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- Published J. P. Madrid, et al. 2018. *A Wide-field Map of Intracluster Globular Clusters in Coma*. ApJ 867:2, 144.
- J. Elvin-Poole, et al. 2018. *Dark Energy Survey year 1 results: Galaxy clustering for combined probes*. Phys. Rev. D 98, 042006.
- D. Mudd, et al. 2018. *Quasar Accretion Disk Sizes from Continuum Reverberation Mapping from the Dark Energy Survey*. ApJ 862:2.
- B. Hoyle, et al. 2018. *Dark Energy Survey Year 1 Results: redshift distributions of the weak-lensing source galaxies*. MNRAS 478:1, 592-610.
- M. Gatti, et al. 2018. *Dark Energy Survey Year 1 results: cross-correlation redshifts – methods and systematics characterization*. MNRAS 477:2, 1664-1682.
- S. S. Tie, et al. 2017. *A Study of Quasar Selection in the Supernova Fields of the Dark Energy Survey*. AJ 153:3, 107.
- C. R. O'Neill, et al. 2016. *Classification of 2 DES supernova with OzDES*. ATEL 9636.

- A. King, et al. 2016. *Classification of 8 DES Supernova with OzDES*. ATEL 9570.
- C. Bonnett, et al. 2016. *Redshift distributions of galaxies in the Dark Energy Survey Science Verification shear catalogue and implications for weak lensing*. Phys. Rev. D 94:4, 042005.
- E. Rozo, et al. 2016. *redMaGiC: selecting luminous red galaxies from the DES Science Verification data*. MNRAS 461:2, 1431-1450.
- F. Yuan, et al. 2015. *OzDES multi-fibre spectroscopy for the Dark Energy Survey: first-year operation and results*. MNRAS 452:3, 3047-3063.
- K. Kuehn, et al. 2014. *OzDES Spectroscopic Classification of Supernovae From DES*. ATEL 6789.
- C. O'Neill, et al. 2013. *Spectroscopic confirmation of supernovae from the La Silla - QUEST survey*. ATEL 4809.
- C. Lidman, et al. 2013. *Spectroscopic confirmation of DES12C3a*. ATEL 4725.

In Review I. Jorgensen, et al. 2019. *The Gemini/HST Galaxy Cluster Project: Environment Effects on the Stellar Populations in The Lynx Clusters at  $z = 1.27$* . In review with ApJ.

## COMMUNICATION

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- Substantial experience communicating in different formats to technical and non-technical audiences with a range of backgrounds. In addition to the many stakeholder meetings and business presentations I have led professionally, the following outlines some quantifiable supporting evidence:
  - Won 3 University speaking awards;
  - 7 astrophysics talks to specialist audiences in 3 countries;
  - 9 talks to the public or non-specialist audiences;
  - 4 astrophysics conferences, retreats, or schools;
  - 9 non-astrophysics conferences, forums, or summits;
  - 400+ University students taught in 20 classes in 5 STEM subjects & was awarded the Excellence in Tutoring award.