

# MAX CAMPBELL

## EDUCATION

2019-2020 **Bachelor of Science (Mathematics)**, WAM of 71.27%, University of New South Wales.

2018 **Bachelor of Science (Honours Class 1)**, GPA of 6.875 out of 7, University of Queensland

Supervisors: Prof. Anthony Richardson and Prof. David Schoeman

Tested three global ecological hypotheses using a large zooplankton dataset (141,000 samples). Frequentist regression models (GLMM) were used to investigate statistical relationships ([Campbell et al. 2021](#)).

2014-2017 **Bachelor of Marine Science (Ecology)**, GPA of 6.667 out of 7, Awarded with distinction, Griffith University.

## EXPERIENCE

Oct 2022-May 2023 **Senior Data Scientist**, Earth Security - (Full-time, London)

- Led quantitative research at Earth Security, and supported projects with data driven insights
- Advanced R (functional programming, metaprogramming, data wrangling & visualisation, GIS)
- Mentored/supervised coworkers in R
- Provided advice to management on quantitative strategy and direction
- Developed and implemented robust and efficient collaborative systems for quantitative work (using GitHub and cloud storage).

Jun 2017-April 2022 **Research Assistant (Ecosystem Modelling) Positions**, Griffith University

Supervisors: Assoc. Prof. Chris Brown and Prof. Rod Connolly

- Read scientific literature and researched connectivity, resilience and multistressors in networks
- Statistical modelling (see *Mathematical and Statistical Skills*)
- Applied graph theory, dynamical systems, stochastic modelling
- Advanced R (functional programming, metaprogramming, data wrangling & visualisation, shiny apps)
- Collaborated with various PhD students, postdocs and ecologists
- Developed a [collaboration framework](#) using GitHub
- Worked at different capacities (incl. 2 years full-time), both in a team environment on Gold Coast and remotely from Sydney

July 2017-Jun 2021 **Workshop Tutor**, Griffith University

- Marine Ecosystem Modelling (third-year course, 2021): Mathematical models (logistic growth, Lotka-Volterra models, ODEs, etc.), R coding
- Statistics (first-year course, 2017): Statistical concepts, SPSS, supervised exams, marking

## MATHEMATICS AND STATISTICS SKILLS

- Experienced working with various statistical and mathematical models: Linear (mixed) models ([Molinari et al. 2021](#)), logistic regression, GLMMs ([Campbell et al. 2021](#), [Molinari et al. 2021](#)), GAMMs ([Brown et al. 2020](#), [Brown et al. 2023](#)), PCAs ([Voser et al. 2022](#)), clustering algorithms ([Voser et al. 2022](#)), time-series and spatial models ([Campbell et al. 2021](#), [Brown et al. 2023](#), [Glen et al. in Review](#)), bayesian regression ([Brown et al. 2021](#)), Lotka Volterra (ODEs) ([Turschwell et al. 2022](#), [Brown et al. in Prep.](#)), graph theory ([Brown et al. in Prep.](#)) and stochastic models ([Brown et al. in Prep.](#))
- Confident collaborating with people who varied mathematical knowledge as demonstrated by my publications and work at Earth Security
- Knowledgeable about experimental design, exploratory data analyses, model selection, model validation, hypothesis testing, forecasting and statistical inference
- Comfortable with mathematical language as demonstrated in my publications (e.g. [Turschwell et al. 2022 supplementary material](#))

## COMPUTING SKILLS

- Technologies: Linux, Windows, Mac OS, R (advanced, [showcased here](#)), Python, MATLAB, SQL, Microsoft office, LaTeX, RMarkdown (e.g. this CV), SPSS, git and [GitHub](#)
- Skills: Functional programming, metaprogramming, vectorisation, parallel processing, data processing, statistical modelling, data structures, visualisation, dashboards and apps, data management skills ([Github collaboration framework](#)), cloud computing
- Packages: base R, tidyr, dplyr, shiny, purrr, numpy, mgcv, nlme, lme4, ggplot2, matplotlib, brms, lubridate, glmmTMB, rlang, parallel, etc.

## AWARDS

- 2021 Pro Vice Chancellor Research Excellence Team Award (Griffith University)
- 2021 Australian Underwater Federation Queensland Sports person of the Year
- 2018 Dean's Commendation for Academic Excellence (University of Queensland)
- 2017 Bachelor of Marine Science (Gold Coast) Final Year Award – Highest achieving student in cohort
- 2017 Griffith Honours College Scholar
- 2015 Team Leader Award (A Team Tuition) – Awarded for great leadership and strong results
- 2014 & 2015 Griffith Award for Academic Excellence

## PROFESSIONAL SKILLS

### Problem solving skills

- Excellent research skills and experience working with complex systems (honours, research assistant)
- Ability to understand systems holistically (concept maps, analyse relationships, identify root causes)
- Provide creative solutions (e.g. help on complex mathematics: [King et al. 2022](#), [Turschwell et al. 2022](#))

### Excellent interpersonal skills

- Demonstrated effective communication skills in a range of work, cultural and social contexts, and adaptable to different situations (office and remote work, travel, and involvement in underwater hockey)
- Practised in stakeholder engagement through role at Earth Security (industry), within [GLOW team](#) (academic), and with 34 coauthors on my first author paper ([Campbell et al. 2021](#))

### Leadership skills

- Supervised and managed team research projects (data science projects at Earth Security, honours, [collaboration framework](#))
- Adaptable to different roles in a team: supporting and following (RA for Chris Brown, Global Wetlands Project), or leading (data scientist at Earth Security, head tour guide, underwater hockey roles: founder, captain, manager, president)

## ADDITIONAL

- Eight scientific [publications](#), one as lead author, with an extra two in review
- State underwater hockey team five times (once as captain), 2020 Australian Underwater Hockey Team, London A Division Underwater Hockey
- Founded and managed a successful underwater hockey club
- **Hiked** - Huayna Potosi (6088m), Hinchinbrook Island (32km), Lara Pinta (230km), South Coast Track (84km), Carnarvon Gorge (87km), **Ran** - Gold Coast Marathon, GRUNT Half Marathon
- Club member - Golden Key International Honour Society, Griffith Marlins Hockey Club (founder, president), Tweed Gold Coast Freedivers (vice president, committee member), Griffith Honours College
- Well travelled through Australia, Europe and Americas

*Referees available upon request*