contact@stateofplay.org

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To the team at SLATE,

I wish to apply for your advertised role of a Analyst/Consultant in Perth, WA. I can provide your team with my years of experience in research. I am experienced in data analysis in a research context and am an enthusiastic student of biostatistics. I can provide SLATE with my experience in processing biological data. I am capable of processing datasets in Excel, R, python, and am very comfortable using the unix command line and various CLI tools such as grep/ripgrep, awk, and vim.

The skills I can bring to SLATE include:

• Experience in using R, python, the unix terminal, and building simple static websites  
• Experience accessing and processing data from online databases using APIs  
• Experience of processing complex population genetics datasets  
• Knowledge of Biostatistics and associated technical knowledge of study design.   
• Experience in translational medical research including cell culture, molecular biology, and animal husbandry

I am interested in this role as I wish to pivot into a data focused role.

I have experience working with university, research institute, and NHMRC bureaucracies.

Your team can also draw on my diverse experience as a science communicator, quality control technician, and as a biology tutor.

Additionally, I was recently responsible for setting up and managing a research program in precision medicine at the Hunter Medical Research Institute. This included setting up support programs and a conference (Cancer and Precision Medicine Program 2022).

See below for my response to criteria.

Yours Sincerely,

Adam Graham

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## Strong strategic thinking capabilities

Through my Masters of Biostatistics and recent 2.5 year Research Assistant role, I have gained a strong understanding of statistical analysis and modelling techniques. In the Masters course, I have learned about regression modelling, likelihood functions, and explored the details of common probability distributions. Beyond this we have explored study design, communication of results, and learned the basics of R and Stata programming languages.

My recent Research Assistant role with Murray Cairns’ population genetics research group has exposed me to cutting edge statistical ideas in use in the field. These include the simple but powerful LD Score Regression (used to calculate genetic correlation), edge regression and bayesian regression techniques for identifying causal variants in GWAS studies.

## Experience in manipulating and analysing data

I have used python professionally and for self-learning. I have used python both professionally and for personal projects. A few recent projects are listed below:

* With permission, I have analysed the todo list I kept for a previous wet-lab biology research assistant role. I have used python to analyse the data and produced custom graphs using matplotlib and seaborn. You can view the project [here](https://adamdoescode.github.io/todo-parsing/)
* A webpage for my quotes collection, which required processing semi-structured text data and outputing a html table (which I used pd.DataFrame.to\_html() for). This project is available [here](https://adamdoescode.github.io/AdamsQuotes/)
* I have been sharpening my python skills by completing the [Advent of Code](https://adventofcode.com/) challenges. For this, I have mostly stuck to python’s standard libraries and have worked to make myself more comfortable with python’s class structures. You can view my solutions [here](https://github.com/adamdoescode/AdventOfCode2022Scribbles)

### R experience & projects

I have recently been exploring weather data around Perth using R. You can view this project [here](https://www.seek.com.au/job/59804986?type=standard" \l "sol=6ab57c110f832ff881da8c614b8af6a9c0d54ac2). In this project I have utilised ggplot and dplyr to perform visual exploration of the data. I have also run several simple linear models to explore the relationship between rainfall, temperature, and date. Beyond this, I have used R in my recent Research Assistant role to perform analyses of complex genetics datasets and other smaller datasets relevant to grants and administation. I also helped debug R code written by PhD students in my research group. Beyond this, I have used R extensively in my Masters of Biostatistics course. I have made extensive use of R’s built in statistical functions as well as utilising statistical packages to perform spline models and simple bayesian regression modelling.

## Enjoys creative problem-solving

My years in research have lead me to develop a strong problem solving skillset. I have used this skillset to solve a number of novel problems. I have been responsible for setting up and managing a research program in precision medicine at the Hunter Medical Research Institute. This included setting up support programs and a conference (Cancer and Precision Medicine Program 2022). I have also been responsible for setting up and managing a research program in precision medicine at the Hunter Medical Research Institute. This included setting up support programs and a conference (Cancer and Precision Medicine Program 2022).

## Strong research skills

I have developed extensive problem-solving skills through my varied career in biological research, science outreach, and teaching. I have also developed strong analytical skills through my Masters of Biostatistics and my recent Research Assistant role. I have used these skills to solve problems in my research group, in my teaching, and in my personal projects.

Being a Research Assistant means carrying out any number of unusual tasks. In my recent role I have done everything from synthesize RNA sequences to organising meetings and scientific talks. I have processed data for everything from a set of excel ordering records to large DNA sequencing projects in the hundreds of gigabytes. These tasks have helped me develop a very flexible way of thinking for problem solving tasks.

In research, I am well versed in solving issues with technical assays including qPCR, RNA extractions, difficulties with plate reader hardware and software, and with the operation of high-performance light microscopes.

## Possesses exceptional communication skills (both written and verbal)

I have utilised my written and verbal communication skills during my time as a research student and as a science show presenter. I have helped proofread and review several published publications and successful grants. I have given presentations to professional and lay-person audiences on my scientific research as well as engaging educational science shows designed to engage primary and high school students in science with liquid nitrogen and explosions.