Alex de Beer

706/96 Symonds Street, Grafton, Auckland 1010
adeb970@aucklanduni.ac.nz · linkedin.com/in/alexgdebeer
github.com/alexgdebeer · alexgdebeer.github.io

Education

ME, Engineering Science *2023–24*
The University of Auckland

BE, Engineering Science (First Class Honours, GPA 8.97 / 9.00) *2019–22*
The University of Auckland

Research Experience

Research Assistant *Nov 2021–Feb 2023*
University of Auckland Geothermal Modelling Group

- Evaluated the effects of using geologically consistent prior parameter distributions on the uncertainty quantification of geothermal reservoir models.
- Developed software implementations of algorithms, based on Bayesian statistics, for simulation-based inference of geothermal reservoir model parameters.

Undergraduate Researcher *Mar 2022–Nov 2022*
The University of Auckland (Honours Project)

- Developed software to optimise the expansion of electricity distribution networks under uncertainty in future demand, using stochastic programming.

Additional Experience

Teaching Assistant *Feb 2021–Present*
The University of Auckland

- Providing assistance to students during tutorials and marking coursework for several maths and engineering courses.

Analytics and Insights Intern *Nov 2022–Feb 2023*
Ministry of Business, Innovation and Employment

- Developed a prototype dashboard to communicate the relationships between research funding and outputs in New Zealand.

Data Science Intern *Nov 2020–Feb 2021*
Xtracta

- Developed machine learning models for product recommendation, document classification and document de-noising.

Selected Honours & Awards

First in Course Awards (2020–22) *The University of Auckland*
First in 14 courses across engineering, computer science and statistics.

Best Poster Award (2022) *The University of Auckland*
First equal in the Faculty of Engineering Summer Research Scholarship poster competition.

Skills

Programming Python, R, Julia, MATLAB, SQL, C++, C.
Tools Jupyter Notebook, LaTeX, Git, Excel, PowerBI.

Presentations

Geologically Consistent Prior Parameter Distributions for Uncertainty Quantification of Geothermal Reservoirs (2023). 48th Workshop on Geothermal Reservoir Engineering, Stanford, CA.

Using JuDGE for Distribution Network Planning (2022). 20th EPOC Winter Workshop, Auckland, NZ.

Conference Proceedings

A. de Beer, M. J. Gravatt, T. Renaud, R. Nicholson, O. J. Maclaren, K. Dekkers, J. P. O'Sullivan, A. Power, J. Popineau, & M. J. O'Sullivan (2023). *Geologically Consistent Prior Parameter Distributions for Uncertainty Quantification of Geothermal Reservoirs*. 48th Workshop on Geothermal Reservoir Engineering.

A. Power, M. J. Gravatt, K. Dekkers, O. J. Maclaren, R. Nicholson, J. P. O'Sullivan, **A. de Beer**, T. Renaud, & M. J. O'Sullivan (2023). *Improved Filtering for a new Resource Assessment Method*. 48th Workshop on Geothermal Reservoir Engineering.

K. Dekkers, M. J. Gravatt, T. Renaud, **A. de Beer**, A. Power, O. J. Maclaren, R. Nicholson, M. J. O'Sullivan, J. Riffault, & J. P. O'Sullivan (2022). *Resource Assessment: Estimating the Potential of an African Rift Geothermal Reservoir*. 9th African Rift Geothermal Conference.