ROHAN CALUM NUTTALL

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EDUCATION

UNIVERSITY OF ALBERTA — Jan 2020 entry

Master of Science, Computer Science (thesis-based)

- *Technical Skills:* Python, JavaScript, C++, SQL, scientific computing, data analysis, machine learning.
- *Enrolled courses*: Reinforcement learning (II), heuristic search.

UNIVERSITY OF BRITISH COLUMBIA — Sept 2014 – May 2018

Bachelor of Science, Honours Physics (Distinction)

- *Coursework*: software construction, computational physics, particle physics, electromagnetic theory, applied quantum mechanics, partial/ordinary differential equations, linear algebra, advanced calculus, probability models and anthropology.
- *Awards*: UBC Innovation Scholar, TD Scholarship for Community Leadership, Queen Elizabeth Golden Jubilee Citizenship Medal, Arthur Crooker Prize for Experimental Physics, Dean's Honour List, Chancellor's Scholar.

WORK EXPERIENCE

AI Research Intern, Kindred Systems — Oct. 2019 – Present

(under James Bergstra)

- Working on testing the performance of a new reinforcement learning algorithm in simulation and production environments.
- Contributed to improving the readability of internal libraries.

Research Assistant, Energy, Technology and Architecture Lab, UBC — Jun – Sept 2019

(under Dr. Adam Rysanek)

- Implemented gradient-boosting methods, recurrent neural networks and deep kernel Gaussian process techniques for predicting the thermal comfort of buildings under future climate weather scenarios (used PyTorch, TensorFlow, Sci-Kit Learn, Pandas, NumPy).
- Packaged and modularized the codebase to allow for greater efficiency in testing new algorithms on timeseries data.

Urban Data Scientist, University Sustainability Initiative, UBC — Jun 2018 – Jun 2019

(under Mrs. Angelique Pilon, Dr. Martino Tran, Dr. James Tansey)

- Implemented observer design pattern to improve the speed of data transfer protocol from building automation systems.
- Automated parts of data generation code using RESTful APIs to improve efficiency and readability.
- Managed strategy, data governance and technical development of a data platform for sustainability data.
- Established and co-chaired the Chief Data Officer's Working Group on Open Data to draft a university open data policy.

Honours Thesis Student, Rare Decay Research Group, TRIUMF — Sept 2017 – May 2018

(under Dr. Douglas Bryman)

- Carried out experimental data analysis as part of an international research collaboration (PIENU Group) to search for new physics beyond the Standard Model. Specifically, my contribution comprised running Monte Carlo simulations to improve the precision of a small part of a very complex experiment (dissertation score: 93%).
- Rewrote components of data analysis pipeline from Python to C++ reducing analysis by 50%.
- Parallelized Monte Carlo simulations for large runs to increase number of runnable experiments/day.

Scientific Computing Analyst, Accelerator Division, TRIUMF — May 2016 – May 2017

(under Mrs. Aurelia Laxdal and Dr. Peter Kunz)

- Work began as a summer co-op position and finished as a year-long thesis project (dissertation score: 92%).
- Investigated radioactive isotope production using Monte Carlo codes (written in FORTRAN) to simulate physical processes and optimize the isotope production system's geometry for enhanced yields.

PUBLICATIONS

1. Rohan Nuttall, Adam Rysanek, *Data-driven learning for forecasting the impact of climate change on a naturally-ventilated building,* submitted to Building & Environment (2019)
2. Jerome R Mayaud, Rohan Nuttall. *A Job, Indeed! Accessibility Equity to Advertised Employment in Cascadia.* Transport Findings, October 2019
3. Jerome R. Mayaud, Martino Tran, Rohan Nuttall, *An urban data framework for assessing equity in cities: Comparing accessibility to healthcare facilities in Cascadia*, Computers, Environment and Urban Systems, Volume 78, 201
4. Jerome R. Mayaud, Martino Tran, Rafael H.M. Pereira, Rohan Nuttall, *Future access to essential services in a growing smart city: The case of Surrey, British Columbia*, Computers, Environment and Urban Systems, Volume 73, 2019, Pages 1-15