Alastair Garner

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Entry-level Data Scientist: 3+ years experience in exploratory data analytics, transformation & experimental design. Practiced in machine learning, neural networks & statistics with a penchant for data visualisation.

EDUCATION

McGill University
MSc - NEUROSCIENCE
May 2017 – May 2020 | Montreal
Cum. GPA: 4.0 / 4.0

University of Oxford
BA - CELL & SYSTEMS BIOLOGY
Oct 2012 – May 2015 | Oxford, UK
Upper Second Class Degree | 2:1

SKILLS

Programming
Python • **MATLAB** • Bash (Ubuntu) • Git • Numpy • Pandas Matplotlib • Seaborn

Coursework
Python for Data Science & Machine Learning Bootcamp | Dec 2019 – Present | Udemy
149 lecture course and practice problems covering: regression, clustering, decision trees/random forest, NLP and deep learning.
Computational Neuroscience | Jan – May 2019 | McGill
Machine learning, (un)supervised learning, neural networks and multivariate statistics.
Statistical Inference | Sep – Dec 2019 | McGill (audit)
Graduate level course in statistics covering probabilistic methods, expectation, hypothesis testing and Bayesian statistics.

EXTRAS

PyData Meetups
Montreal, QC
Attend monthly meetings, featuring guest speakers, to discuss trends and techniques in data science, machine learning and deep learning.

Outreach Coordinator
2018 – Present | Pint of Science
Organised & hosted 3-day event, bringing Montreal's scientists together with the general public to present/discuss research.

PROJECTS

Unsupervised Timeseries Classification   MATLAB
Jan 2019 – Apr 2019 | McGill
- Developed unbiased behaviour classification using **unsupervised clustering** methods on **multivariate timeseries** data.
- **Doubled** the number of quantifiable behaviours from recordings in *Drosophila*, allowing greater resolution of behavioural analysis.
- Methods included agglomerative clustering, dynamic time warping and multivariate distance metrics.

Feature Detection Algorithms   MATLAB
Sep 2018 – Dec 2018 | McGill
- Wrote **novel algorithms** for detection & quantification of features from behavioural recordings of *Drosophila*.
- Expanded **threefold** the repertoire of quantifiable salient features, adding increased dimensionality and breadth to behavioural analyses.

Independent Projects   PYTHON
Jan 2019 – Present | Freelance
- **Temporospatial analysis** of usage of the public bike-rental network (Bixi) across Montreal, visualised with OpenStreetMap.
- Built **perceptron classifier** as a tool to train undergraduate researchers on the mathematical theory behind artificial neural networks.
- **Correlation** and **principal component analysis** of mouse cortical neuron activity to delineate cell assemblies.

EXPERIENCE

Graduate Thesis   GRADUATE RESEARCHER
May 2017 – Present | McGill
- **Formulated**, **troubleshot** and **conducted** my own experiments from hypothesis to assay, to analysis. Required management of time, data, undergraduate researchers and animals.
- Set up and managed a **high-throughput data pipeline** for handling behavioural recordings of **500,000+** individuals.
- **Designed a class** (MATLAB) to **transform data** from 5 different data pipelines into a common, human readable format.

Analytical Collaboration   GRADUATE RESEARCHER
Feb 2018 – Present | McGill
- Developed an assay, analyses and data visualisation for behavioural experimentation for collaborators in the **van Meyel lab**.
- Wrote an **algorithm for eliminating noise** in object tracking, improving the quality of collected data.

TEACHING

Neural Basis of Behaviour   TEACHING ASSISTANT
Sep 2017 – Present | McGill
- For a **class of 200+** third year undergraduates, responsible for leading review lectures, office hours, exam feedback and exam marking.
- Honed strong public speaking skills, effective communication of difficult concepts and data presentation.