

JACOB BRADLEY

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I am a PhD student at the University of Edinburgh with a technical background in statistical and machine learning, computational biology and cancer genomics. My PhD work centres around applying modern techniques from machine learning and high-dimensional statistics to genomic medicine.

EMPLOYMENT EXPERIENCE

University of Edinburgh

September 2019 - Present

- On top of my research duties, I run workshops for undergraduate and masters level courses and supervise masters students in their research projects.

Caspian Learning

July 2019 - September 2019

- I completed an internship in the R+D team, developing tools for AI-based investigation of financial crime. I worked on weak supervision techniques including data programming and active learning.

Cambridge Cancer Genomics (CCG)

October 2018 - May 2019

- I completed a research internship, using machine learning techniques and comprehensive genomic profiling data via liquid biopsies to predict response to immuno-oncogenic therapy.

Pearson

March 2018- June 2018

- I worked on the development of Pearson's range of A Level Mathematics textbooks.

California Institute of Technology (Caltech)

June 2017 - September 2017

- I conducted an undergraduate research fellowship in the Elowitz Laboratory, developing a simulation toolkit for developmental signalling pathways, focussing on modelling biological information processing.

Corpus Christi College, Cambridge (CC)

March 2017 - May 2018

- I was employed as the college's Computing Officer, maintaining and administrating the college's database of student leases and internal elections.

KEY SKILLS

Statistical Modelling

High-dimensional inference,
survival analysis

- Doctoral Research
- CCG Internship

Machine Learning

scikit-learn, tensorflow,
keras

- Caspian Internship

Programming

Python, R, MATLAB,
GitHub, HTML + CSS

- Programming Coursework
- Computing Officer at CC

Data Analysis

R, Python, SQL

- MSc Research Project

Advanced Data Visualisation

R (tidyverse),
JavaScript (D3)

- MSc Systems Biology

Computational Biology Research

- Caltech Research Fellowship

High Performance Computing

- Computing cluster use in PhD research

Writing and Communication

- A Level textbook developer with Pearson
- Vice-President of Corpus Christi College JCR
- STIMULUS volunteer in local primary schools

EDUCATION

Institution/ Course	Key Modules	Grades	Honours
School of Mathematics, University of Edinburgh, PhD Statistics	Thesis Title: "Statistical Learning and Genomic Medicine", High-Dimensional Statistics Causality in Biomedicine	-	CCG Studentship
Corpus Christi College, University of Cambridge: MSc Systems Biology	12 Week Research Project, Data Acquisition and Handling, Modelling and Analysis of Networks, Synthetic and Executable Biology	I	Best Research Project (Systems Biology), Don Hanson Scholar, College Scholarship.
Corpus Christi College, University of Cambridge: BA Mathematics	Statistical Modelling, Mathematical Biology, Quantum Information/Computation, CATAM Programming Coursework	I/II.i	Boorman Scholar, Special Exhibitioner, College Scholarship.

PUBLICATIONS**Dimensionality and structure in cancer genomics: a statistical learning perspective***Jacob Bradley**September 2020*

- Published by IntechOpen, Chapter 3 of the book "Artificial Intelligence in Oncology Drug Discovery & Development". Available [here](#).

Data-driven design of targeted gene panels for estimating immunotherapy biomarkers*Jacob Bradley**February 2021*

- ArXiv preprint. Available [here](#).

VOLUNTEERING**STIMULUS Volunteer Programme**

October 2017- June 2018

- I volunteered in two Cambridge primary schools, teaching year 4/5 pupils about coding in Scratch/Python and about online safety.

Corpus Christi JCR (Students' Union)

March 2017 - March 2018

- As vice-president of the students' union, I was responsible for organising Freshers' Week welcome events, student lease allocations, chairing meetings of students and staff, and a yearly budget of over £30,000.

March 2016 - March 2017

- As a welfare officer my job was to support the physical, emotional and social wellbeing of students. This included training by a counsellor to offer triage around physical, mental and sexual health.