

Sam Hillman

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PhD researcher with a passion for delivering insights from data. Currently focused on social network analysis and statistical modelling in R, but keen to learn new analysis techniques and technology. Particularly interested in data cleaning, validation, and analysis pipelines, and gaining experience with Shiny and SQL. My previous career in sales and recruitment has given me experience in stakeholder and relationship management, and I enjoy working with both technical and non-technical teams.

Skills

Data Analysis: R (proficient), Python (beginner), SQL (beginner)

Data Visualisation: ggplot2 (proficient)

Scripting: Bash (proficient), Powershell (beginner), LaTeX (beginner), RMarkdown (intermediate)

Statistical Techniques: Linear mixed effects modelling, linear and logistic regression, network modelling, model simulation

OS: Windows (expert), Linux (proficient)

Version Control: Git (intermediate)

Soft Skills: extensive sales and stakeholder management experience, experienced in explaining technical concepts to non-technical colleagues

Education

PhD, Ecology and Evolutionary Biology
Edinburgh University

2019 - 2023

PhD on *The impact of resource distribution and quality on wild mouse contact networks, parasite infection, and transmission*. Combining field work with social network analysis, simulation studies, and statistical and mathematical modelling.

BSc. (Hons) Ecology with a Placement Year
Cardiff University
1st Class Degree

2015 – 2019

Specialising in Infection Biology and Epidemiology, Systems Biology and Modelling, and Global Change Biology. Awarded prize for best dissertation research.

Research Experience

Dissertation Research, CRIPES Group
School of Biosciences, Cardiff University

October 2018 – February 2019

Dissertation research project with Dr. Jo Lello on the effect of endemic co-infection on disease transmission of epidemic parasites. Working in a laboratory system with German cockroaches as a model organism and using collected data to build statistical models of disease transmission and survival models in R.

Main packages: dplyr, ggplot2, coxme, multcomp, glmmTMB

Research Intern, The Ezenwa Lab
Odum School of Ecology, University of Georgia

September 2017 – August 2018

Placement year as a Research Intern with Professor Vanessa Ezenwa, working on an independent project on “The effects of anthelmintic treatment on non-target parasites in wild rodents” and

assisting on a project on the causal relationship between personality and parasitism in wild rodents. Responsible for data handling, data cleaning, and statistical analysis all using R.

Main packages: dplyr, ggplot2, glmmTMB

Research Assistant, CRIPES Group
School of Biosciences, Cardiff University

July 2017 – August 2017

Awarded a Cardiff CUROP grant to work as a summer student research assistant, working on 'Investigating the effect of temperature on the in vitro growth rate of the oomycete *Saprolegnia parasitica*'. Focused on samples from Welsh salmonid species and worked with Salmon and Brown Trout. ImageJ used for automatic and manual image processing of fungal growth rates and R for data analysis. Wrote macros for automatic image analysis and used R and Tidyverse packages for data processing and analysis.

Main packages: dplyr, tidyr, ggplot2, glmmTMB

Non-Academic Experience

Teaching Assistant / Demonstrator
University of Edinburgh

September 2019 – Present

Assisting undergraduates during laboratory practical work. Primarily focused on genomics courses, helping to teach Linux, bash, and command-line tools.

Clinical Studies Administrator

June 2016 – July 2017

Wales Cancer Trials Unit, Centre for Trials Research (part-time during studies)

Responsible for gathering and analysing confidential patient clinical data and establishing trends and patterns with data managers and statisticians.

Researcher and Data Administrator

January 2016 – July 2016

Chartered Institute of PR, Wales (part-time during studies)

Consultant for the Chartered Institute of Public Relations Wales, working on data and database administration under strict NDA conditions.

Microsoft Recruitment Account Manager,
CV Bay

March 2013 – September 2015

Recruiting for technical data science and IT development roles. Line-managed and trained two other people.

Training and Training Courses

2021	Mathematical Models for Infectious Disease Dynamics, Wellcome Trust
2020	Linux for Genomics, Edinburgh University
2019	Social Networks Analysis Workshop, Max Planck Institute for Ornithology
2018	Assessing the Environment course (including GIS), Cardiff University
2018	Computational Modelling workshop, University of Georgia
2018	R Programming and Statistics with R, Datacamp
2017	Data Manipulation with R and Intermediate R, Datacamp
2017	Python for Data Science, Datacamp
2016	Good Clinical Practice (Primary Care) Certification, NICE