

# Rowland Williams

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*I am a self-taught JavaScript developer and hold a first-class master's degree from UCL. I am fascinated by the potential for technology to tackle pressing social and environmental problems. I am particularly interested in interactive data visualization and have a solid understanding of D3.js, Node.js and React.*

## Relevant Experience

### Freelance Data Visualisation Engineer, Researcher and Designer | August 2020 - Present

- Currently working on several data visualisation projects including:
  - An interactive network graph for Farming the Future, a body of civil society organizations involved in UK food security.
    - Design and Development - D3.js / React.
  - A [widget](#) displaying daily CO<sub>2</sub> levels for several major news websites. Due to be published on Sky and BBC news. Ongoing project with Matthew Shribman and Chris Butterworth, lead developer at Generate Space.
    - Development - HTML, SASS and PHP.
- Various design projects including custom artwork for UK surfboard company Hervé Surfboards.

### Upskilling | April – August 2020

- Working in Japan at the start of lockdown and had employment terminated.
- Used the lockdown period to upskill, developing programming and design capacity.

### Analyst | APEM Ltd (Environmental Consultancy), Manchester, UK | May – September 2019

- Used R to analyse data from aerial wildlife surveys implemented to guide the sustainable placement of offshore wind farms.
- Worked within a data-focused team to perform analyses to meet high-pressured client deadlines.

### Supply-chain Research Intern | Global Canopy, Oxford, UK | October 2017 – April 2018

- Analysed data for the Transparency for Sustainable Economies ([Trase](#)) platform using R and GIS.
- Designed R pipelines for data cleaning and processing. Utilized web scraping and API's.
- Worked from pre-determined briefs to write data-driven stories and visualisations using R for [policy briefs and blogs](#).
- Policy research for Forest 500 and SCRIPT Forest Finance Projects.

### Research Assistant | University College London & States of Jersey | June 2017 – September 2017

- Statistical modelling of the impacts of novel artificial lighting technologies on bat ecology on the island of Jersey using [R](#). Liaised with relevant stakeholders to collate data sources.
- Prepared my results for [publication](#) as lead author.

## Other Experience

### Ski Technician | Niseko Sports, Hokkaido, Japan | November 2019 – April 2020

- 6-month sabbatical working overseas in a high-pressure environment.
- Studied data science and web-development in my spare time, worked on creative projects.

## Relevant Projects and Publications

### [CO<sub>2</sub> Explorer:](#)

- An interactive visualization of atmospheric CO<sub>2</sub> levels over the last 500 years written in D3.js.

### Reporting Daily CO<sub>2</sub>

- Ongoing project with Matthew Shribman and Cambridge Zero. A widget showing daily Carbon Dioxide levels to display on major news websites. Front-end development using HTML, SASS and PHP.

### MATOPIBA: Brazil's new soy frontier:

- A visual blog curated whilst at UK NGO Global Canopy. Used data from [Trase](#) and the ggplot2 library in R to explore the recent expansion of soy production in the Matopiba region of Brazil and its associated environmental costs.

### Machines for Nature:

- An article exploring the emerging role of machine learning in biodiversity science. Won a Global Studies scholarship from the American NGO Field Projects International to fund a tropical field-skills course in the Peruvian Amazon.

**Williams R., Walters C., Gibb R., Browning E., Tipping D., and Jones K.E., 2017, Differential effects of broad-spectrum streetlight technologies on landscape-scale bat activity across the island of Jersey. *in prep.* Available as a preprint here: <https://www.biorxiv.org/content/10.1101/525568v1>**

## **Skills**

### **Programming/Data**

- JavaScript:
  - React, D3, Node/Express, Angular (working knowledge). Data Structures, Algorithms, web-scraping.
- Web:
  - HTML, CSS3, SASS, Gulp, Git/GitHub
- Python:
  - Pandas, numpy, seaborn, bokeh. ML using tensorflow/keras (working knowledge).
  - Python for Data Science and Machine Learning Bootcamp on Udemy.
- R:
  - Strong understanding of core analytics and visualisation packages (e.g. tidyverse, ggplot2). Data modelling using spdep, glmer packages.
- Spatial:
  - Strong understanding of ArcGIS/QGIS. Processing of raster and vector data. Spatial data handling and analysis in R. Rendering of maps in graphics software.

### **Statistics**

- Experienced with statistics, linear modelling and model selection methods (p-value, AIC and information theoretic model averaging).

### **Creative**

- Production of communications materials for a wide range of audiences (e.g. reports, blogs, infographics) and writing concise copy to deadlines.
- Design using Adobe Creative Suite and Procreate. Photography and Illustration.

## **Education**

### **MSci Biological Sciences | University College London (UCL) | 1<sup>st</sup> Class Honours | 2013 – 2017**

- Final year research project in Computational Ecology (78%).
- 3<sup>rd</sup> Year at the University of British Columbia (UBC), Canada.
- Academic Awards:
  - UCL Faculty of Life Sciences – The Dean's List Nominee (2014).
  - UCL Provost's Scholarship for Academic Excellence (2013, £1000).

### **A-levels | Victoria College, Jersey | 2011 – 2013**

- Biology (A\*), Chemistry (A\*), Mathematics (A\*), AS: French (A), Photography (B)