

Rowland Williams

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I am an enthusiastic and driven JavaScript developer specializing in data visualization and information design. I hold a first-class master's degree from UCL and I am fascinated by the potential for technology to deliver effective solutions to real-world problems. I am motivated by the opportunity to combine computational thinking with creativity to build immersive and interactive experiences from data. I have strong skills in D3.js, Node.js and React and can also work in Python and R.

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](#) and interactive [website](#) displaying daily CO₂ 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, PHP and D3.js.
- Various design projects including custom artwork for UK surfboard company Hervé Surfboards.

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.

Data Science 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](#).

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.

Relevant Projects and Publications

[European Wave Atlas:](#)

- Interactive map of European Surf Spots using data scraped from a surf forecasting website.
- The map uses a Voronoi tessellation to work out the nearest surf spot to any location in Europe.

[CO₂ Explorer:](#)

- An interactive visualization of atmospheric CO₂ levels over the last 500 years written in D3.js.

[Reporting Daily CO₂](#)

- 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.

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.
 - Leaflet.js, Mapbox.

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) | 1st Class Honours | 2013 – 2017

- Final year research project in Computational Ecology (78%).
- 3rd 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)