

# CILLIAN BERRAGAN

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## EDUCATION

### University of Liverpool

*Doctor of Philosophy in Natural Language Processing & Geography*

Liverpool, UK

Sep 2019 – Dec 2023

- **Thesis:** Exploring Place from the Perspective of Informal Social Media Text
- Published peer-reviewed research in reputable journals and presented at international conferences.
- Expanded research focussing on geographic knowledge extracted through natural language processing.
- Extensively used Python for deep learning through PyTorch (Lightning) and Hugging Face Transformers.

### University of Liverpool

*Master's of Science in Geographic Data Science*

Liverpool, UK

Sep 2018 – Sep 2019

- **Dissertation:** Utilising Supervised Parametric Classification to Assess the Quality of the UK Rural Road Network using Aerial LiDAR Data
- TODO; See old CV.

## WORK EXPERIENCE

### Consumer Data Research Centre

*Software Engineer (NLP)*

Liverpool, UK

Dec 2023 – May 2024

- Developing a Retrieval Augmented Generation (RAG) Search System for the CDRC Data Catalogue, powered by Llama Index and OpenAI, to enhance data discovery and access.
- Generated data schemas for data products to enable automated checks on ingestion of new data products; using Pydantic, Pandera (pandas/polars dataframes) and Prefect for monitoring.

### University of Liverpool

*PhD Researcher*

Liverpool, UK

Sep 2019 – Dec 2023

- Funded CDT position contributing to research through the Geographic Data Science Lab.
- Engaged with lab activities; hosting and contributing to weekly meetings. Showcasing research or technical demonstrations.
- Collaborated on peer-reviewed research external to PhD thesis.

### Consumer Data Research Centre

*Data Scientist (Part Time)*

Liverpool, UK

Feb 2021 – May 2022

- Developed a system to calculate access to amenities using the road network across each postcode in Great Britain.
- Improved calculation times from previous implementations using GPU accelerated (cugraph) graphs, reducing time from 8 hours per calculation, to 10 minutes.

### TEP - The Environment Partnership

*Graduate Ecologist*

Warrington, UK

May 2018 – Sep 2018

- Led projects to support planning and development across the country
- Wrote professional reports and collaborated as part of a large team
- Travelled to sites to engage in-person with clients and site managers

## PROJECTS

### Job Tailor

*Open University*

Nov 2020 – Apr 2021

- Created an AI-powered resume editor application that allowed users to easily create different resumes and cover letters specifically tailored to and customized for individual job descriptions based on their personal information in their complete curriculum vitae.
- Acquired more than 100,000 user sign ups in 3 months and more than 10,000 active monthly users in its lifetime before being sold to investors.
- Generated profit of upwards \$20,000 yearly with a team of only four developers and three business operatives