

CILLIAN BERRAGAN

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EDUCATION

University of Liverpool

Doctor of Philosophy in Natural Language Processing & Geography

Liverpool, UK

Sep 2019 – Dec 2023

- **Honors:**
- **Courses:** TEMP
- **Thesis:** Exploring Place from the Perspective of Informal Social Media Text
- **Activities:** TEMP
- 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

- **Honors:** TEMP
- **Courses:** TEMP
- **Thesis:** TEMP
- **Activities:** TEMP

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

LEADERSHIP & ACTIVITIES

White Hat Hackers Association

Vice President for Internal Affairs

Cambridge, United Kingdom

May 2020 – May 2021

- But I must explain to you how all this mistaken idea of reprobating pleasure and extolling pain arose.
- But who has any right to find fault with a man who chooses to enjoy a pleasure that has no annoying consequences, or one who avoids a pain that produces no resultant pleasure?
- Can you then suppose that those heroic men performed their famous deeds without any motive at all?

London Bridge Toastmasters Club

Member

City of London, United Kingdom

Jun 2022 – Jun 2023

- Won Champion in the Division A District X Speech Evaluation Contest of Toastmasters International

- Promising Toastmaster of the Year (PY 2022-2023)
- Tell me, pray, what explanation do you put upon their actions?

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

HONORS & AWARDS

Champion in the Division A District X Speech Evaluation Contest

City of London, United Kingdom

Issued by *Toastmasters International*

May 2023

Finalist in the 2020 SCG Bangkok Business Challenge Global Competition

Bangkok, Thailand

Issued by *Sasin School of Management*

Jul 2020

- Made it to the Top 5 (selected from over 100 teams) in the world for the semi-finals of the SCG Bangkok Business Challenge @ Sasin 2020 Global Competition held at Bangkok, Thailand from July 7-12, 2020.
- Served as the speaker and presented in the 60-second pitch round of the Opening Reception of the SCG Bangkok Business Challenge @ Sasin 2022 for Team London Bridge.

LICENSES & CERTIFICATIONS

Learning How to Learn: Powerful mental tools to help you master tough subjects

Issued by *Coursera*

Sep 2021

RESEARCH & PUBLICATIONS

Transformer based named entity recognition for place name extraction from unstructured text

Published on *International Journal of Geographical Information Science*

Oct 2022

SKILLS, LANGUAGES, INTERESTS

- **Soft Skills:** Public Speaking, Communication, Critical Thinking, Leadership, Academic Writing, Technical Writing
- **Programming:** Python, SQL, PostgreSQL, MATLAB/Octave, HTML, CSS, Javascript, Typst, LaTeX
- **Tools:** Microsoft Word, Git, Docker, Visual Studio Code, Canva
- **Machine Learning & Data Science:** React, Next.js, million.js, Svelte & Sveltekit, Tailwind CSS, Node.js, Deno, FastAPI, Flask
- **Natural Language Processing:** Jupyter Notebook, Numpy, Pandas, Plotly, Altair