

Data science professional seeking opportunities to work on projects involving data-driven decision-making.

WORK EXPERIENCE

Data Science Researcher, Swansea University 09/2023 – Present

- Conducted comprehensive fine-scale data wrangling, analysis, visualization of spatio-temporal **GPS telemetry** data to understand and report motion patterns and resource selection, using logistic regression.

INSPIRE Fellow, Dept. of Science and Technology 3/2019 – 8/2022

- Devised and executed a comprehensive strategy for the collection, wrangling, visualisation and statistical analysis of GPS telemetry and survey data. This initiative significantly aided the forest department in developing human-wildlife conflict (HWC) mitigation strategy affecting > 2 million lives.
- Communicated the findings of research via meetings, trainings and workshops to foster coexistence and conservation in > 2000 km² area.
- Consultant, United Nations Development Programme** 8/2018 – 7/2019
- Successfully developed and commissioned **18 projects** within a span of 5 months, bolstering snow leopard conservation efforts across four Himalayan landscapes through multi-stakeholder consultations and government liaising.

MACHINE LEARNING PROJECTS

Binary classification: Predicting patients who may be at risk of developing a disease, based on medical history.

- Executed comprehensive analysis of medical data using Logistic Regression, XGBoost and Random Forest models.
- Conducted inferencing and **Variable Importance Plot** to identify predictor variables with the most impact.

Binary classification: Predicting binary outcome – survival / death of Himalayan expedition members.

- Performed a comprehensive analysis of Himalayan expedition dataset, addressing **class imbalance**, **missing data**, and exploring relationships between expedition characteristics and outcomes.
- Used Logistic Regression and Random Forest models with model explainability to identify impact of predictor features.

Multinomial classification: Predicting type of volcano (multiclass) using low sample size.

- Implemented **bootstrap** resampling instead of traditional training and testing data splits, showcasing a creative approach to handling a relatively small dataset and **SMOTE** upsampling to address class imbalances.

Regression model: Predicting childcare cost in the US counties based on the various features.

- Conducted in-depth exploration of childcare cost across the US counties, uncovering temporal trends, demographic relationships, and complex interdependencies. Used XGBoost algorithm with regularization.

RESEARCH INTERNSHIPS

Scholar, University of Pittsburgh, USA 5/2016 – 7/2016

- Performed experiments and analysis to investigate HIV virology pathways.

Exchange Scholar, Freie Universität Berlin, Germany 5/2015 – 7/2015

- Investigated link between immunology and aging (eco-immunology).

SKILLS

Tools / Programming Languages

- R (tidymodels, tidyverse, terra, shiny)
- Python (scikitlearn, tensorflow, pandas, numpy)
- Git / GitHub
- Power BI
- SQL
- Quarto
- QGIS
- MS Office Suite (Excel, Word, PowerPoint)

Techniques

- Machine learning (regression, classification, ensemble methods)
- Statistical Modelling (linear, non-linear, mixed)
- Hypothesis (A/B) Testing
- Data Analysis
- Data Wrangling
- Data Visualisation
- Version Control
- Spatial Analysis / GIS

Frameworks

- Agile
- CRISP-DM
- OSEMN

EDUCATION

University of St Andrews **UK**
MSc Statistical Ecology 8/2023

IISER Kolkata **India**
Integrated Bachelor and Master of Sciences
(major in Biological Sciences) 5/2017

CERTIFICATIONS

R for the Rest of Us

Skills: Advanced Data Visualization, Advanced Data Wrangling, Data Analysis and Reporting.

PR Statistics: MOVE04

Skills: Spatio-temporal GPS telemetry data analysis, Advanced Statistical Modelling, GIS

AWARDS

- 2022: **Full tuition scholarship** by the University of St Andrews, **United Kingdom**.
- 2019: Top **1000** students to get Govt. of India's Department of Science & Technology (DST) 5-year INSPIRE Fellowship.
- 2017: Samir Mehta Scholarship to pursue the **Young India Fellowship** programme in **Ashoka University**.
- 2016: Fogarty grant (National Institute of Health, USA) Research Scholar at the University of Pittsburgh, **USA**.
- 2015: Top 5 students to be selected for Direct Exchange Scholarship to work at the Freie Universität Berlin, **Germany**.