

RIDDHI BATTU

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Vancouver, BC V6S0L2

Dynamic Data Scientist and Researcher with 4+ years of experience in data visualization, environmental analytics, geospatial modeling, and automated data pipelines. Skilled in Python, R, SQL, APIs, and dashboard development, with a strong background in agroecology, conservation analytics, and climate-smart agriculture. Experienced in cross-functional collaboration, cloud deployments, and publishing research outputs. Passionate about building reproducible, scalable, and farmer-centric data systems.

CORE TECHNICAL SKILLS

Programming: Python, R, SQL, JavaScript (basic), MongoDB

Visualization & Dashboards: Shiny (Python/R), Tableau, PowerBI, Plotly, Altair, Matplotlib

Geospatial & Environmental Tools: Google Earth Engine, SoilGrids, OpenLandMap, Polaris Soil Maps, QGIS

Machine Learning & Statistics: Predictive Modeling, A/B Testing, Time Series, Random Forests, Clustering, Regression

DevOps & Workflow Automation: Git/GitHub, Docker, CI/CD, Nginx, Uvicorn, Automated ETL Pipelines

APIs & Data Integration: REST APIs, GBIF, GIFT, eBird, ITRDB Tree Ring Data, USDA Conservation Funding Data

Other: Research methodology, communication, team leadership, project management

PROFESSIONAL EXPERIENCE

Data Team Lead

September 2024 - Current

Data Scientist

May 2024 - August 2024

Data Visualization and Innovation Assistant

May 2023 - April 2024

Faculty of Land and Food Systems at University of British Columbia, Vancouver

May 2023 - Current

- **Lead LiteFarm's data science initiatives** supporting sustainable agriculture, climate modeling, biodiversity metrics, and global environmental analytics.
- **Oversee development of interactive Shiny-for-Python dashboards** used by farmers, researchers, policymakers, and partner organizations.
- **Implement privacy-layered dashboards**, role-based access, and data governance for large-scale deployments.
- **Standardize LiteFarm data** to align with the Common Farm Convention (CFC) for interoperability with HOLOS, Cool Farm Tool, and other GHG calculators.
- **Design and maintain automated API pipelines** integrating GBIF, GIFT, SoilGrids, and ERA5-Land weather datasets.
- **Deploy web applications** using Nginx + Uvicorn on cloud servers (UBC Math VM, DigitalOcean), ensuring reliability and scalability.
- **Perform advanced geospatial analyses** including farm boundary mapping, species richness modeling, landscape analysis, and biodiversity scoring.
- **Mentor Work-Learn students and interns**, creating robust onboarding materials and reproducible workflows.
- Contributed to grant writing and future research planning to support LiteFarm's long-term data infrastructure and expansion.
- **Reduced report generation time by 60%** through Python automation; improved SQL query efficiency by 40%.

Research Assistant – Joséphine Gantois Research Group

September 2025 - Current

Institute for Resources, Environment and Sustainability at University of British Columbia, Vancouver

- **Support interdisciplinary research** in ecology, climate adaptation, and conservation finance through automated data engineering and environmental modeling.
- **Build large-scale automated datasets** using APIs from Google Earth Engine, ITRDB (tree-ring), NOAA datasets, GBIF biodiversity layers, and conservation funding sources.
- **Co-develop reproducible analytical pipelines** for climate metrics, species distributions, land conservation outcomes, and environmental indicators.
- **Contribute to co-authored manuscripts** and reproducible research repositories.
- Assist with statistical modelling, geospatial workflows, and harmonizing multi-source environmental datasets.
- Improved project reproducibility by systematizing workflows, implementing robust GitHub version control practices, and refactoring scattered scripts into modular, documented pipelines, **boosting workflow efficiency by approximately 40%**.

PROFESSIONAL EXPERIENCE

Data Scientist

02 May 2022 - 01 July 2022

Hora Education & Services Pvt., Gurgaon, India

- Collaborated closely with the data science head at Florence Capital, a FinTech company dedicated to empowering women in India through innovative, ethical credit solutions, **improving collaboration efficiency by 35%**.
- Conducted data analysis and crafted loan collection models, optimizing collection efforts and **increasing efficiency by 45%**, while focusing on providing transparent, low-interest loans to women.
- Retrieved and analyzed data from MongoDB, translating complex data into **actionable insights that enhanced decision-making** and maintained PowerBI dashboards used by CFOs to support strategic business decisions.

Student Body President

June 2019 - May 2020

Scottish High International School, Gurgaon, India

- Elected through a highly competitive selection process based on exceptional leadership and organizational skills.
- Spearheaded SHISMUN 2019, the largest Model United Nations event in Haryana, **successfully managing 700+ delegates** and ensuring a seamless, high-profile experience.
- Directed all aspects of event management, including **budgeting, marketing, and logistics**, while securing prestigious sponsorships, such as Nestlé, contributing to a **30% increase in event funding**.
- Led groundbreaking initiatives on **mental health awareness and anti-cyberbullying**, resulting in a **substantial boost in student engagement** and promoting well-being across the institution.

RESEARCH PROJECTS & ACADEMIC WORK

Environmental Sustainability (UBC SEEDS Program)

Analyzed single-use cup usage on campus under Dr. Jiaying Zhao. **Designed and implemented a survey (N=253), analyzed data with R**, and shared findings on [\[GitHub\]](#). Report available [here](#).

Python Package Developer – pynyairbnb (PyPI)

Airbnb Data Analysis: Co-developed 'pynyairbnb', a Python package for analyzing Airbnb listings. It supports **data preprocessing, visualization, and machine learning** for rental optimization. Available on [PyPI](#).

DiversiPlant Interactive Dashboard (with Ilyas Siddique, UFSC)

Developing an interactive decision-support dashboard for DiversiPlant, a tool that combines plant ecophysiology, trait-based modeling, and practitioner knowledge to support multifunctional intercropping using Shiny. Available [here](#).

EDUCATION

Bachelor of Arts, Psychology Major, Data Science Minor with Distinction

September 2020 - April 2024

University of British Columbia

Faculty of Arts International Student Scholarship 2023-24

AWARDS | CERTIFICATIONS | VOLUNTEER WORK

- TCPS 2 Core Certificate – 2022
- "Young Leader Creating a Better World for All" - **Women Economic Forum International Award**, 2019
- Volunteered at **Earth Saviors Foundation** improving well-being of elderly homeless, 2015-2022
- **Initiated waste segregation** and environmental campaigns in residential areas, 2016-2019