ROBERT SCHLEGEL, PhD

Data Scientist - Project Manager

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PROFILE

A results-oriented professional with over a decade of experience managing projects at the nexus of climate and ecology. As a resourceful problem solver, I draw upon my robust academic research background to develop practical solutions based on science and technology to support resilience against the adverse effects of climate change on both human communities and the environment.

CORE SKILLS

- R + Python programming languages
- Shiny, Quarto, HTML
- Full-stack app development
- Spatial and temporal analyses of big data
- Management, development, and publication of datasets
- Machine learning algorithm development
- Project management
- Curriculum development
- Teaching - Instructing - Demonstrating
- Mentoring
- Certified PADI diving instructor
- Class IV commercial/ research diver

CORE KNOWLEDGE

- Marine heatwaves (MHW)
- Coastal ecology - kelp forests
- Species distribution modelling (SDM)
- Climate change
- Biodiversity
- Languages: English, French, German, Afrikaans

EDUCATION

2018 - PhD Biodiversity | University of the Western Cape - SA
2014 - MPhil Applied Marine Science | University of Cape Town - SA
2008 - BA Psychology | University of Washington - USA

EXPERIENCE

Co-Founder, Director | Ecomonitor

Nice - FR - Jul 2024 – Present

In my capacity as a strategic development and daily operations manager at an environmental data analysis-focused start-up, I spearheaded the integration of my specialised expertise in biodiversity and climate change into the rapid prototyping and development of operational web-based tools. These were instrumental in delivering actionable analytics to partners and clients, thereby enhancing the value proposition of their existing products and services.

Key responsibilities

- Collaborating with co-founders on project management, market research, and product development
- Interacting with partners and clients to develop valuable insights into further customer acquisition while refining our product offering
- Adapting and applying academic research outputs into an industry context to create financing channels for nature restoration projects
- Interconnecting a wide range of subjects from carbon credits to disaster risk reduction
- Resilience and rapid problem-solving in a fast-paced, constantly evolving, high-pressure environment

Key achievements

- Developed a library of workflows and analyses in R and python to automate the sourcing, analysis, and visualisation of environmental and social datasets for operational report generating routines
- Developed multiple interactive proofs of concept that showcased a range of investible nature based solutions

Lead Data Scientist | FACE-IT

Villefranche-sur-Mer - FR - Nov 2020 – Jul 2024

I headed daily operations for Work Package 1 (WP1) within a large multi-national Horizon2020 funded EU research project focussed on understanding the impacts of climate change on socio-ecological fjord systems.

Key responsibilities

- Management of, and reporting on, all WP1 projects + research outputs
- Liaising with other WP leads on multiple projects and collaborating on data + research needs
- International travel for fieldwork, meetings, and representation of FACE-IT
- Development of, and ensuring adherence to, a Data Management Plan (DMP) for all work packages
- Sourcing and amalgamating thousands of disparate datasets relevant to Arctic research

Key achievements

- Developed and published the FjordLight dataset, with corresponding eponymous R library
- Released three operational apps (R Shiny) to valorise the work performed at FACE-IT

Postdoctoral Fellow | Ocean frontier Institute (OFI)

Halifax, Canada - Sep 2018 – Nov 2020

International postdoctoral fellowship in physical oceanography research labs at Dalhousie University and Woods Hole Oceanographic Institute. I was focussed on developing and implementing the big data tools and infrastructure necessary to understand the drivers of MHWs at a global scale.

Key responsibilities

- Mentorship and co-supervision of junior researchers
- Presentation of research outputs and representation of OFI at international conferences
- Maintenance and continued development of the R source code for MHW detection
- Large model output validation against in situ and remotely sensed datasets

Key achievements

- Full-stack developed an operational web based application for better MHW monitoring globally
- Developed a widely used machine learning (ML) methodology to understand the drivers of MHWs

ADDITIONAL

- Steering committee member for the North-Heat project
- Member of both the CLIVAR and Ilico research groups for MHWs
- Contributing author to both the WMO and NOAA annual state of the climate reports

REFERENCES

Prof. Jean-Pierre Gattuso | SU, CNRS | FR, jean-pierre.gattuso@imev-mer.fr

Prof. Kai Bischof | MARUM, UB | DE, kbischof@uni-bremen.de

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