Michael Van Nuland, PhD

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Research Scientist and Data Analyst

Innovative problem solver with 12+ years of experience creating, collaborating, and coding novel, data-driven research. Strong expertise in project design, management, statistics, data analytics, inference, visualization, and discovering insight amidst complex results. Successfully leads independent projects and thrives in collaborative environments. A fast-learning team player who can build synergy and efficiently adapt to evolving projects integrating the latest industry trends.

Skills and Expertise

R · Statistics · GIS · Python · Git · Unix Shell · Microsoft Office
Data Mining · Analytics · Visualization · Harmonization · Management · Manipulation
Regressions · Variance Analyses · Mixed Models · Discriminant Analyses · Machine Learning
Public Speaking · Technical & Non-Technical Writing · Presentations · Teaching · Service & Outreach

Selected Career Highlights

- **Designed, implemented, and managed** short- and long-term independent and team research projects.
- Developed and collaborated on novel research resulting in **19 peer-reviewed science publications**.
- Awarded over $140,000 in **grant funding** for expenses related to research, education, and outreach projects.
- Created and published **custom code** to fit models to complex biological systems and "big" data.
- Invited to **present research findings** at US, Canadian, and European Universities and Organizations.
- **Mentored** six PhD students and 15 undergraduate students on research projects and professional development.

Professional Experience

Data Scientist | Stanford University, July 2017 – Present

Data mined climate information and 2 million+ species records to build predictive models of ecological disruptions

- Scripted original code to organize, manipulate, analyze, and visualize trends in plant and fungal biodiversity

Collaborated across disciplines to investigate plant-fungal symbioses from genomic to global scales

- Collected and analyzed biological samples, completed molecular workflows (DNA extraction, library preparation, PCR amplification, sequencing), created custom scripts for microbial bioinformatic analyses of "big" data projects

Data Scientist | University of Tennessee, September 2012 – June 2017

Created experiments to test climate change impacts on plant-microbiome interactions and evolutionary responses

- Fit statistical models to bridge empirical and theoretical concepts across different ecological themes, efficiently managed research projects with 5000+ experimental units, organized and led undergraduate data collection teams

Synthesized observational and experimental data to identify novel mechanisms driving biodiversity & ecosystem function

- Analyzed data with mixed effects models, PCAs, regressions, generalized additive models, covariance matrices

Research Scientist | Seattle University, July 2009 – June 2011

Generated experimental data to discover trends in how urbanization impacts arthropod biodiversity

- Designed ecological experiments, created linear and multivariate statistical models, presented research findings

Education

Doctor of Philosophy | Ecology and Evolutionary Biology | University of Tennessee | 2017

Bachelor of Science | Biology, *cum laude* | Seattle University | 2011