Geraldine Klarenberg, PhD

I am a **Quantitative Data Scientist** with some qualitative data experience.

💼 Professional Summary

I am passionate about any and all data; find them, make them usable, explore them, visualize them and analyze them. I have worked on a variety of datasets; spatial, satellite/remote sensing, survey, environmental, health-related. I approach every dataset and every project with excitement and curiosity. I love Exploratory Data Analysis (EDA) to summarize and better understand data, as well as statistical analyses and simulation model creation to answer important questions.

💼 Specific Expertise

Data cleaning and wrangling, **Exploratory data analysis** (e.g. cluster analysis and dimensionality reduction), **Data visualization**, **Descriptive statistics**, **Inferential statistics** (e.g. multivariate regression and mixed effect models), **Time series analysis** (e.g. non-linear time series analysis, signal decomposition and causality), **Simulation (process) modeling** (e.g. matrix models, individual-based models), **Uncertainty and sensitivity analysis**, **Geographic Information Systems (GIS)** (spatial analysis in general), **Supervised machine learning** (classification: random forest, logistic regression), **Qualitative analysis** (survey analysis)

Currently working on: Google Machine Learning Crash course, NVIDIA DLI: Accelerated Data Science with RAPIDS

Things I want to learn: Scrum project management, text analysis, more HTML and CSS, cloud computing (AWS or Azure).

💼 Professional Experience

current

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2019

Lecturer Quantitative Data Science (faculty)

University of Florida 📍 Gainesville, Florida (USA)

School of Forest, Fisheries and Geomatics Sciences.

- Design and teach undergraduate and graduate classes on programming, coding, open science and open data, data wrangling, reproducibility, simulation modeling, statistics and data visualization - using R, Python and git.
- Conduct workshops on similar topics for faculty and staff.
- Provide consulting services to students, staff and faculty on programming and statistics (methods, design, implementation).
- Mentor and advise graduate students.

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Skills

Statistics
R (incl Rmarkdown and some Shiny)
Python
git, GitHub, GitLab
Machine learning
SLURM job scripts
Unix
Languages: English, Dutch, French, German

Education

PhD, Agricultural and Biological Engineering with a certificate in Biological Systems Modeling, University of Florida, Gainesville, Florida, USA (2017)

BSc and MSc, International Land and Water Management (hydrology and irrigation) with a 'minor' in Law and Governance, Wageningen University, Wageningen, The Netherlands (2004)

Passions

Exploring, family, fixing things, running, hiking, water (in any shape or form), cooking, nature.

2019 | 2016

Various research positions
University of Florida   📍 Gainesville, Florida (USA)

Post-doctoral Associate, (2018-2019) Department of Wildlife Ecology and Conservation. - Development of a dynamic population abundance model (state-space model) in R. - Guide and mentor undergraduate and graduate students.

Post-doctoral researcher, (2017 - 2018) Department of Agricultural and Biological Engineering. - Collection, organization, feature engineering and analysis of a range of agricultural indicators (environmental, economic, social, productivity and human condition indicators).

Biological Scientist II, (2016 - 2017) - Development of a dynamic matrix population model, including MLE optimization - Analysis of a long-term Florida horseshoe crab monitoring dataset, and the development of a dynamic occupancy model (aka a state-space model)

2016 | 2015

Statistician
Suwannee River Water Management District   📍 Live Oak, Florida (USA)

- Analysis of flow and water quality data for research and policy purposes
- Evaluation of, and assisting with, consultants' statistical analyses
- Contribute to database development and sampling designs
- Development of R code and scripts for data extraction, analysis, synthesis and presentation.

2015 | 2012

Graduate Research Assistant
University of Florida   📍 Gainesville, Florida (USA)

At the Department of Agricultural and Biological Engineering, part of the project "Global Sensitivity & Uncertainty Analysis for Evaluation of Ecological Resilience: Theoretical Debates over Infrastructure Impacts on Livelihoods & Forest Change".

- Development of a spatially explicit dataset on environmental variables and variables associated with infrastructure development.
- Statistical analyses: clustering, development of a state-space model (Dynamic Factor Analysis) and non-linear time series analyses.
- Write reports, prepare and give presentations.

2011 | 2010

Consultant
Self-employed   📍 South Africa / USA

Research, analysis, information syntheses and report development for various clients (government, universities, non-profits) on Integrated Water Resources Management, water supply and sanitation services, climate change adaption, etc. Contributed technical and public participation expertise.

2010 | 2005

Program manager / Policy Specialist
The Mvula Trust (NGO)   📍 Johannesburg, South Africa

- Policy analysis and strategic document development (water provision, water resources management, rainwater management, multiple use of water)
- Project and program management (subcontractor management, budgeting, tendering, proposal and progress report writing) on behalf of the South African government.

👉 Service

current | 2020	**R-Users Group Gainesville** Organizer	📍 Gainesville, Florida (USA)

We organize workshops, talks, tutorials and social activities for users of the programming language R.

R-Ladies Gainesville
current \| 2018 — Co-founder and organizer 📍 Gainesville, Florida (USA)

R-Ladies is a worldwide organization whose mission it is to promote gender diversity in the R community. As the local chapter, we organize monthly meetings, workshops and socializing events.

UF Carpentries Club
2019 \| 2018 — Board member (treasurer) 📍 Gainesville, Florida (USA)

I am also a Certified Data and Software Carpentry instructor since 2017, and still actively teach and help at UF Carpentries workshops on R and Python.

American Society of Agricultural and Biological Engineers
2018 \| 2014 — Various positions 📍 Florida/USA

• Publicity chair for the Florida section (2017 - 2018)

• Member-at-large (Graduate Student Relationships) of the Young Professionals Community (YPC) at national level (2014 - 2015)

PhDMoms
2015 \| 2014 — Co-president 📍 Gainesville, Florida (USA)

I led a graduate student organization at the University of Florida that supports doctoral student-parents, with specific attention to female student-parents

UF Agricultural and Biological Engineering Graduate Student Organization
2015 \| 2013 — President 📍 Gainesville, Florida (USA)

Organization of professional development and social activities for graduate students.

Science fair judging (middle schools)
current \| 2013 — Judge 📍 Alachua county, Florida (USA)

🔖 GALLUP StrengthFinder Themes (2015)

• *Executing:*

• **1. Restorative -** "I love to solve problems."

• *Influencing:*

• **2. Communication -** "I like to explain, to describe, to host, to speak in public, and to write."

• *Relationship building:*

• **3. Harmony -** "I look for areas of agreement."

• **4. Connectedness -** "Things happen for a reason."

• **5. Adaptability -** "I live in the moment."