

ELKE WINDSCHITL

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SUMMARY OF QUALIFICATIONS

- 3 years of scientific programming experience in R; 1 year of experience in Python; experience in SQL.
- Experienced in geospatial analysis, data preparation, data analysis, data visualization, and statistics.
- Efficiently work within collaborative teams; equally at ease working independently; strong communication.
- Passion for investigating and applying technical solutions to environmental and social challenges.

EDUCATION

Master of Environmental Data Science, 3.97 GPA (6/23)

Bren School of Environmental Science & Management — University of California, Santa Barbara (UCSB)

Leadership: Dean's Advisory Council Representative, Master's Curriculum Committee Representative

Highlighted Coursework: Geospatial Analysis and Remote Sensing, Modeling Environmental Systems, Statistics for Environmental Data Science, Data Visualization and Communication, Team Science

Bachelor of Science in Biology with Honors, 4.00 GPA (5/20)

College of Agriculture and Life Sciences — Iowa State University (ISU)

Involvement: National Student Exchange Program (Fall 2018, Spring 2020), Cultural Ambassador (Fall 2020), Women in Science and Engineering Student Role Model (Spring 2018, Spring 2019, Fall 2020)

Highlighted Coursework: Field Ecology, Environmental Ethics, Introduction to Renewable Resources, Fundamentals of Public Speaking, Written Oral Visual and Electronic Composition

DATA SCIENCE PROJECTS

Designing an Interactive Web Application for Decision Research, (8/23–present)

Role: Application programmer | **Client**: Judgement, Decision, & Social Comparison Lab

- Developing an interactive web application with Shiny in R as a prototype to assist the Judgement, Decision, & Social Comparison Lab in securing grant funding for studying sequential and visual decision-making.
- Creating data visualizations with *ggplot2* and *ggiraph* in line with the principal investigator's design vision.
- Providing insights on important design principles such as color-blind friendly palettes, lie factors, and apparent magnitude Flannery scaling for achieving effective and fair visualizations for decision-making.
- Planning and executing moderated usability testing to assess the efficacy of the application's user interface.

Master's Capstone: Developing a Data Pipeline for Kelp Forest Modeling, (1/23–6/23)

Role: Spatial modeling, project management | **Clients**: Ocean Rainforest Inc., UCSB

- Aligned spatiotemporal resolution of 13 spatial data sets in R with *terra*, *raster*, & *sf*, to create a synthesized dataset containing oceanographic factors and metrics of giant kelp distribution as a deliverable for clients.
- Performed maximum entropy species distribution modeling in R with *ENMeval* to estimate where on the Santa Barbara coastline has the highest predicted habitat suitability for kelp cultivation and restoration.
- Created visualizations in R with *ggplot2*, *Leaflet*, & *tmap* to communicate the spatial distribution of kelp, temperature, depth, and nutrients in the Santa Barbara Channel as well as identify data gaps.
- Managed project deadlines, deliverables, and communication with Zoom, Slack, Docs, and GitHub Projects.

Statistics Course Project: Identifying Key Traits in Hawaiian Fish that Predict Risk of Extinction, (10/22–12/22)

- Retrieved, filtered, and joined large data tables from FishBase and the International Union for Conservation of Nature (IUCN) Red List application programming interface (API) in R with *dplyr*, *rfishbase*, and *rredlist*.
- Leveraged *stats* to run a series of logistic regression models to investigate the probability of a species being listed as threatened on the IUCN Red List based on characteristics such as endemism or length.
- Communicated study results by creating *ggplot2* visualizations and writing an online Quarto report.

PROFESSIONAL RESEARCH EXPERIENCE

Batten Research Fellow (Animal Behavior), (7/21–9/21)

Virginia Aquarium & Marine Science Center, Virginia Beach, VA

- Integrated the use of ZooMonitor — a digital animal behavior monitoring tool — at the aquarium by developing workflows and creating training materials for teaching other staff to use ZooMonitor.
- Collaborated with animal care staff to develop and execute a scientific experimental design to better understand how target animals' behavior changed based on time of day, location, guest count, etc.
- Collected and analyzed behavior data of 2 seals and 1 crow using ZooMonitor software and R.
- Presented research results to ~50 aquarium staff via a 45-minute Zoom PowerPoint presentation to inform science-based animal care procedure changes at the aquarium.

Research Assistant, (1/19–12/19, 7/20–8/20)

Iowa State University Janke Lab (in collaboration with the Iowa Department of Natural Resources), Ames, IA

- Processed, analyzed, and visualized extensive quail audio data using R, Raven Pro, Excel, and PowerPoint.
- Developed 3 research questions and methods of investigation for assessing the use of autonomous recording units to study Northern bobwhite quail and support the National Bobwhite Conservation Initiative.
- Presented a research poster at the National Conference on Undergraduate Research detailing how ARUs can be used by the Iowa DNR to monitor occupancy of quail in place of labor-intensive point count surveys.
- Followed detailed instructions to assist with miscellaneous lab and field tasks to help other lab members such as drying and weighing prairie grass biomass samples, assisting with line transect surveys, etc.

Animal Behavior Research Intern, (6/19–8/19)

Saint Louis Zoo, Saint Louis, MO

- Conducted daily live animal behavior observations of bears and primates with a defined ethogram as part of an 8-person team to inform future science-based animal care decisions at the zoo.
- Collected viper behavior data by conducting independent video observations using Observer XT to contribute to a study investigating whether viper tongue flicks are an indicator of stress.
- Coded mother-infant antelope behavior data by conducting independent video observations using Observer XT to contribute to a 30+ year study to help inform future care of mother-infant pairs.

ADDITIONAL EXPERIENCE

Environmental Education Creative Collaborator, (6/18–present)

The LENA Project, Iowa City, IA

Create digital content and marketing materials to communicate the organization's mission and projects via graphic design and illustration using Canva, Adobe Photoshop, and Procreate as contract and volunteer work; brainstorm project ideas; archive work and metadata from previous projects.

Cashier, (1/22–7/22)

Whole Foods, Seattle, WA

Provided excellent customer service and communication while cashiering, bagging, and monitoring self-checkout machines; trained 8 new team members on standard operating procedures in the customer service department.

SKILLS & CERTIFICATIONS

Programming Languages: R (proficient); Python, SQL (competent); Bash (beginner)

Additional Digital Literacy: GitHub, Git, Microsoft 365 (proficient); Google Earth Engine, ArcGIS (competent)

Certifications: Fundamentals of GIS; GIS Data Formats, Design, and Quality, University of California, Davis (3/21)