JUAN LOPEZ ARRIAZA

https://jlopezarriaza.github.io/ *(209) 233-2343; juan.lopez.arriaza@gmail.com*

Education

- **University of California, Santa Cruz**—Santa Cruz, CA
  Ph.D., Statistics and Applied Mathematics
  - Dissertation Title: *Unraveling Steelhead Life History Complexity through Mathematical Modeling*
  - Graduated October 2015
- **University of California, Santa Cruz**—Santa Cruz, CA
  M.S., Statistics and Applied Mathematics
  - Graduated June 2013
- **University of California, Merced**—Merced, CA
  B.S., Applied Mathematics
  - Graduated May 2011

Work Experience

- **The Climate Corporation**—San Francisco, CA
  Director: Global Crop Protection Digital Solutions : April 2024–Present
  - Guiding multi-year strategic vision of global digital solutions in the crop protection spacer
  - Serving as mentor to individuals across Bayer at various levels of their career from data scientists to people managers
- **The Climate Corporation**—San Francisco, CA
  Senior Data Science Manager: Crop Management Modeling : July 2022–April 2024
  - Managing both the technical contributions as well as the personal development of a team of 10+ data scientists
  - Developing and executing multi-year technical roadmaps for various areas of research while collaborating with various business units to ensured aligned success
  - Overseeing the development, advancement, and implementation of novel machine learning and statistical methodologies for predictive agronomic modeling from a diverse set of data types
  - Serving as mentor to individuals across Bayer's Digital Farming Solutions organization at various levels of their career from data scientists to people managers
- **The Climate Corporation**—San Francisco, CA
  Data Science Manager: Crop Management Modeling : March 2019–July 2022
  - Manage a team of data scientists, statisticians, and domain experts to solve complex challenges in digital agriculture.
  - Responsible for the development of data scientists at various stages of their career.
  - Responsible for hiring of data scientists with various backgrounds to support research objectives.
  - Drive the technical roadmap for a various areas of research related to crop management recommendation and it's connection to business outcomes.
- **The Climate Corporation**—San Francisco, CA
  Senior Quantitative Researcher: November 2017–March 2019
  - Technical Lead on a cross-functional team developing new science to meet and influence products related to agronomic recommendations.
  - Successfully led efforts to improve the accuracy of existing internal models for fertilizer recommendations.
  - Analyzed data from field trials to develop novel prediction models and validate existing methods for fertilizer recommendations.
  - Served as mentors for interns.

- **The Climate Corporation**—San Francisco, CA
  Quantitative Researcher: August 2016–November 2017
  - Applied Mathematician and Statistician on an interdisciplinary team developing fertilizer use recommendations to farmers.
  - Utilized random forests and hierarchical modeling to identify areas of systematic bias in our production model, highlighting focus areas for future research.
  - Consulted for non-statisticians conducting data analyses, providing guidance on appropriate methodologies.
- **NOAA Southwest Fisheries Science Center and UC Santa Cruz**—Santa Cruz, CA
  Postdoctoral Researcher: October 2015–August 2016
  - Developed nonparametric methodology for multi-objective optimization based on Gaussian Processes and Markov Decision Processes
  - Analyzed of ecological time series using parametric and nonparametric Bayesian techniques
  - Served as mentor on technical and non-technical subjects to PhD and Masters students
- **UC Santa Cruz, Department of Applied Mathematics and Statistics**—Santa Cruz, CA
  Graduate Student Researcher: September 2011–October 2015
  - Studied and created Bayesian nonparametric statistical methodology for the analysis of individual growth
  - Analyzed historical data to determine ecological factors driving population dynamics in multiple species
  - Managed and coordinated data collection strategies among multiple academic and governmental agencies
  - Supervised undergraduate students during capstone and independent research projects
- **Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam**—Amsterdam, The Netherlands
  Visiting Graduate Student Researcher: June 2014–September 2014
  - Built a international cross-institutional collaboration to study ecological dynamics
  - Developed mathematical models to study complex ecological population dynamics using novel applied mathematic methodologies
  - Analyzed high dimensional outputs of the model using Matlab

Skills

- **Non-technical skills**: Project Management, people management, Change Management, Mentoring, Collaboration
- **Quantitative Techniques**: Hierarchical Bayesian Modeling, Time-series Analysis, Spatial Statistics, Nonparametric Bayesian Inference, Numerical Analysis, Machine Learning, MLOps, MLEng
- **Languages**: Python, R, SQL, Matlab
- **Packages**: PySpark, Scikit-learn, PyMC3, Tensorflow, SparklyR, TidyR, Stan