Ava Hoffman

Ecologist

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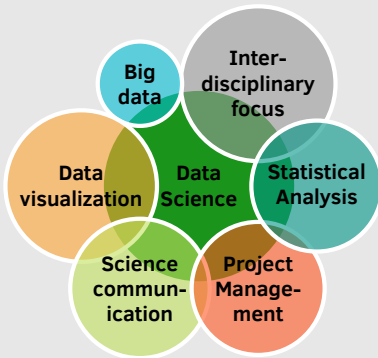✉ avamariehoffman@gmail.com

in /in/ava-hoffman-0abb6054

⬤ avahoffman

Skills

Overview

Programming

$0\ LOC$　　　　　$20000\ LOC$

R • RStan • JAGS

Python • LaTeX

Training

ESS 575 - Implemented Bayesian models for ecological data using JAGS
Stan Seminars - Implemented Bayesian models for ecological data using RStan
NSCI 588 - Analyzed genomic data using Python
Overheard at ESA - Android app developed in MIT App Builder workshop
STAT 512 - implemented more advanced principles of statistical design for research projects
STAT 511 - participation in principles of statistical design, inference, methods, & toolbox skills for research
Teaching - 7 semesters teaching & 4 years student mentoring experience

Education

| 2013 - 2018 | **Ph.D, Ecology** (GPA: 4.0/4.0) | Colorado State University, USA |
| 2008 - 2012 | **B.S., Biology** (GPA: 3.7/4.0) | University of Virginia, USA |

Research

2013 - 2018　**Ph.D Candidate, USDA NIFA Predoc. Fellow**　Colorado State University
Dissertation: Intraspecific diversity & drought coping mechanisms of dominant prairie grasses
- Awarded $118,112 in grants to perform research
- Research Mentoring for Inclusivity & Advancement in STEM Fellow, Sustainability Leadership Fellow, Vice President for Research Fellow, ESA Hackathon beginner app developer first place 🏆
- **Primary Tools**: R, RStan, shell scripts

Recent Publications Google Scholar

2018. **Hoffman, AM**, et al. Co-dominant grasses differ in gene expression under experimental climate extremes in native tallgrass prairie. *PeerJ*.

2017. **Hoffman, AM** and MD Smith. Gene expression differs in codominant prairie grasses under drought. *Molecular Ecology Resources*.

Projects

2018 - present　**Dominant species in dry ecosystems**　Colorado State University
- Processed data from existing studies to determine the predictive power of dominant grasses in response to climate change with meta-analysis

2017 - present　**Metabolic responses to nitrogen**　Colorado State University
- Synthesized metabolomic, physiological, & community responses to nitrogen using path analysis with metabolite module clustering

2016 - Present　**Genetic diversity in *Bouteloua* grass**　US Dept of Agriculture
- Quantified changes in the genomes of populations of this grass & related them to differences in plant appearance & drought strategy

2014 - 2018　**Non-linear plasticity in *Andropogon* grass**　Colorado State University
- Processed highly multivariate trait responses to a gradient of water availability

2015 - 2017　**Gene expression (RNA) in dominant grasses**　Colorado State University
- Analyzed gene expression responses of key grasses to drought using the de novo transcriptome assembler Trinity, next generation bioinformatics tools, & microarrays

2017　**Grasshopper preference for *Bouteloua***　Colorado State University
- Modeled the responses of grasshoppers in response to different cultivars of *Bouteloua* grass