

JACOB PETERSON



EDUCATION

Present
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2020

• M.Sc., Applied Statistics and Analytics

University of Kansas Medical Center

• Emphasis: Data Science

📍 Overland Park, KS

2018
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2016

• M.Sc., Natural Resources Ecology and Management

Oklahoma State University

Advisors: Dr's. Julia Earl & Sam Fuhlendorf

• Thesis: Examined the effects of the Conservation Reserve Program and anthropogenic structures on the long-distance movements of *Tympanuchus pallidicinctus*

• Graduate Research Assistant

📍 Stillwater, OK

2015
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2012

• B.S., Fish, Wildlife and Conservation Biology

Colorado State University

• Concentration: Wildlife Biology

• Minor: Spatial Information Management (SIM)

📍 Fort Collins, CO



RESEARCH EXPERIENCE

2019

• Graduate Teaching/Research Assistant

Purdue University Zollner Lab

• Led design and development of a spatially explicit agent-based model to simulate chronic wasting disease management in *Odocoileus virginianus* populations

• Was the lead author on two grant application proposals (PI: Dr. Patrick Zollner)

• Managed collaborations between universities, state agencies, and private stakeholder organizations

• Continued graduate coursework focusing in statistics and data science

📍 West Lafayette, IN

2019
|
2016

• Student Consultant

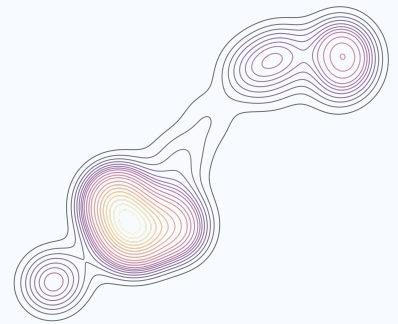
Oklahoma State University and Purdue University

• Drew on my expertise in R programming, statistics, and GIS to assist other students, post docs, and research staff within my graduate schools

• Consulting topics included: basic R programming, data cleaning, data management, statistical and spatial analysis

• Led help sessions one on one and within small working groups

• Provided detailed presentations about new techniques to lab research groups and graduate level classes



CONTACT

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🌐 github.com/jacpete

📞 +1 (913) 449-1623

SKILLS

Highly experienced with

📊 Program R

🌐 ArcGIS

🐧 Linux/Bash

📄 R Markdown

🐙 Github

📈 Statistical Analysis

Experience with

🐍 Python

📊 SQL

🌐 QGIS

🎮 Netlogo

📄 HTML/CSS

My research experience has allowed me to develop and hone my skills in programming, data management, statistics, and GIS that will be transferable to any field.

Made with the R package
[pagedown](#).

The source code is available at
github.com/jacpete/Resume_CV.

Last updated on 2020-01-09.

- 2018
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2016

Graduate Research Assistant
Oklahoma State University
Fuhlendorf and Earl Labs
 - Utilized resource selection function's (mixed-model logistic regression), semi-variogram-based movement models, and a cumulative distribution function-based method to estimate selection-avoidance-neutral trends in response to features in the landscape
 - Designed a spatial classification function in R to characterize different animal behaviors given GPS movement data of an individual
 - Developed an R package to increase reproducibility of my research methods
 - Located, obtained, prepared, and managed large datasets from multiple state and federal agencies, private companies, and universities
 - Lead author on two academic manuscripts and multiple research summary reports

Stillwater, OK
- 2015
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2012

Human Dimensions Technician
Colorado Parks and Wildlife
Supervisor: Dr. Stacy Lischka
 - Projects:* Examining angler satisfaction in Colorado, assessing motivations of Colorado big game hunters, black bear exploitation of urban environments, assessing motivations of Colorado waterfowl hunters, examine the outdoor oriented values of elementary students using an Outdoor Wilderness Lab, track the effect of implementing a novice hunter program in Colorado
 - Created summary reports for survey results and conducted literature reviews
 - Designed and managed Access and ESRI geodatabases

Fort Collins, CO
- 2015

GIS & Human Dimensions Independent Study
Colorado Parks and Wildlife & Colorado State University
Supervisor's: Dr's. Stacy Lischka and Yu Wei
 - Began development of a method to spatially model and predict human attitudes and tolerance to black bears using survey response data
 - Experience using SQL to interface with a database and Python & R to script a spatially-explicit model

Fort Collins, CO
- 2015

NSF - Research Experience for Undergraduates Fellow
University of Kansas
Reuman Lab
 - Data-mined a fish stomach database using SQL and R to establish a food web for the North Atlantic Ocean and assess correlation between these interspecific relationships with meta-population synchrony

Lawrence, KS
- 2014

Predictive Model for Archeological Sites Affected by Flood Damage
SIM Minor Capstone Project (CSU)
 - Designed a predictive model to locate prehistoric and historic cultural sites in the Eastern foothills of the Rocky Mountains in Colorado
 - Created for National Forest Service archeologists
 - This initial model was designed to be scalable in order to locate cultural sites in a variety of terrains
 - Developed using Python scripts and ArcGIS

Fort Collins, CO



FIELD EXPERIENCE

2016
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2015

● **Field Technician - White-tailed Deer Capture**

Missouri Department of Conservation

📍 Rea, MO

Supervisor: Jon McRoberts

- Captured, measured, and collared adult deer using Clover traps and rocket nets. VITs were inserted in does for neonate capture. Used telemetry and GPS to locate dropped collars and find mortalities.
- Neonates were captured and collared using GPS locations retrieved from collars and monitoring VIT and doe collar VHF frequencies
- All collared deer were monitored for mortality using Iridium GPS network or VHF signals

2014

● **Field Technician - Mule Deer Neonate Capture**

Colorado Parks and Wildlife

📍 Piceance State Wildlife Area, CO

Supervisor: Mark Peterson

- Used telemetry and GPS to locate does and monitor for birth timing
- Captured, measured, and collared mule deer neonates
- Monitored collared fawns for mortality signals and investigated the cause of death

My field experience includes working alone and as a small team in difficult terrain in a large range of weather conditions. I have used a multiple models of Garmin and Trimble GPS's and VHF receiver systems.



TEACHING EXPERIENCE

- 2019 • **Vertebrate Population Dynamics**
Purdue Department of Forestry and Natural Resources 📍 West Lafayette, IN
• Teaching Assistant
• Covered introduction to statistics and life tables in R, distance sampling using Program Distance and mark-recapture analysis with Program MARK
• Senior-level undergraduate course
- 2019 • **Big Data in Forest Research – Guest Lecture**
Purdue Department of Forestry and Natural Resources 📍 West Lafayette, IN
• Guest lecture on using R as a GIS
• Covered an introduction to the tidyverse, the differences between packages sp and sf, using package raster, and mapping with ggplot and tmap
• Graduate level course



POSTERS & TALKS

- 2019 • **Engaging stakeholders in chronic wasting disease management through agent-based models**
Midwest Deer and Wild Turkey Study Group Meeting 📍 Nashville, IN
• Authors: Peterson, J. M., P. A. Zollner, J. Caudell
• Invited Talk
- 2019 • **Effects of Anthropogenic Features and Landcover on the Long-Distance Movements of Lesser Prairie-Chickens**
Quantitative Ecology Working Group at Purdue Department of Forestry and Natural Resources
📍 West Lafayette, IN
• Authors: Peterson, J., J. Earl, S. Fuhlendorf, D. Elmore, A. M. Tanner, D. Haukos, S. Carleton
- 2019 • **Landscape factors affecting large-scale population connectivity in a grassland obligate grouse species**
Indiana State Chapter of The Wildlife Society 📍 Indianapolis, IN
• Authors: Peterson, J., J. Earl, S. Fuhlendorf, D. Elmore, A. M. Tanner, D. Haukos, S. Carleton
- 2018 • **An astronomical event reveals the role of landscapes as thermal moderators.**
Ecological Society of America 📍 New Orleans, LA
• Authors: Tanner, E. P., S. D. Fuhlendorf, J. A. Polo, and J. M. Peterson
- 2018 • **Response of Lesser Prairie-Chickens to Anthropogenic Structures During Long-Distance Movements**
International Association for Landscape Ecology - North America
📍 Chicago, IL
• Authors: Peterson, J., J. Earl, S. Fuhlendorf, D. Elmore, A. M. Tanner, D. Haukos, S. Carleton
• Invited Symposium on Behavioral Landscape Ecology
- 2018 • **Effects of Anthropogenic Structures on the Long-Distance Movements of Lesser Prairie-Chickens**
Midwest Fish and Wildlife Conference 📍 Milwaukee, WI
• Authors: Peterson, J., J. Earl, S. Fuhlendorf, D. Elmore, A. M. Tanner, D. Haukos, S. Carleton

I have a passion for teaching those that traditionally would consider themselves non-programmers how scripting and programming can make them more efficient at their jobs. I am also a advocate for free and open source options that allow fully reproducible science.



PUBLICATIONS

2019

● **Estimating response distances of lesser prairie-chickens to anthropogenic features during long-distance movements**

Ecosphere

- Authors: **Peterson, J.**, J. Earl, S. Fuhlendorf, D. Elmore, A. M. Tanner, D. Haukos, S. Carleton
- In Review

2019

● **An astronomical event reveals the role of landscapes as thermal moderators**

- Authors: Tanner, E. P., S. D. Fuhlendorf, J. A. Polo, and **J. M. Peterson**
- In Review