JACOB PETERSON

I have a passion for process improvement, software environment setup, and technical communication. I am a problem solver, concerned about fixing issues at hand but adamant that solutions should be documented and processes reviewed so that past problems don't continue into the future. While my background has been much more focused in data analysis and data development, I have gained the majority of my experience while working within a variety of Linux distributions. While it hasn't been a rigid learning experience, it has been a constant one; tinkering on a Linux box is a favorite hobby of mine. I have spent countless nights researching and learning many different pieces of the Linux environment including the Linux filesystem, managing a public-facing server, and Bash scripting. While I still know there is a lot more to learn and many more problems to face, I have a proven track record of gaining novel technical skills quickly and have a strong interest in continuing to expand my Linux knowledge to scale up to working in a commercial environment.

PROFESSIONAL EXPERIENCE

Present | 2020

Data Developer and Analyst
Mid-America Regional Council   📍 Kansas City, MO

- Created a data pipeline to monitor the COVID-19 pandemic that was used as emergency response tool for the Kansas City region
  - Used R and Python to scrape and clean data, SQL databases to store it, and R, ArcGIS, and PowerBi products to visualize and deliver data to the public
  - Developed a Shiny application to manage all inputs and outputs in a controlled fashion, ensuring data accuracy and reporting
- Developed organizational R and Python packages that work to mirror common tasks done day to day so that cross-training and switching languages is less burdensome and reduces technical debt
- Created technical documentation that standardized data storage and documentation practices, software environment setup, and tips for using Python and R in the same project
- Created a system that uses Bash and Arrow to quickly filter and summarize terabytes of transportation movement data
- Managed collaborative data sharing relationships with City, County, State, and Federal government agencies
- Created a procedure to securely store authentication credentials in a common location that can be accessed by any of our scripts and scheduled tasks

2019

Graduate Teaching/Research Assistant
Purdue University   📍 West Lafayette, IN

- Led design of a spatially explicit agent-based model to simulate the spread of chronic wasting disease
- Experience managing and optimizing long-running scripted projects on HPC systems by mullti-threading processes
- Managed collaborations between universities, state agencies, and private stakeholder organizations
- Continued graduate coursework focusing in statistics and data science

2018 | 2016

Graduate Research Assistant
Oklahoma State University   📍 Stillwater, OK

- Applied hierarchical logistic regression models and a variety of spatial movement and resource selection models
- Designed a spatial classification algorithm to characterize different animal behaviors given GPS movement data of an individual
- Developed an R package to increase reproducibility of my research methods
- Managed large datasets from multiple state and federal agencies, private companies, and universities

CONTACT

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SOFTWARE EXPERIENCE

- Ⓡ R [*7 years*]
- Git/GitHub [*6 years*]
- Linux/Bash [*6 years*]
- HPC [*4 years*]
- Python [*4 years*]
- Rmarkdown [*4 years*]
- SQL [*4 years*]
- HTML/CSS [*3 years*]
- Github Actions CI/CD [*2 years*]
- JavaScript [*2 years*]
- Shiny [*2 years*]
- Arrow [*1 year*]

LINUX SKILLS

- Ubuntu, Fedora, CentOS, Manjaro
- Bash scripting
- Managed web server software including RStudio Server
- Managed system services like SSH, FTP, SAMBA
- Firewalls and port forwarding with UFW and iptables
- Virtualization

UNIVERSAL SKILLS

- Independent and efficient researcher
- Problem solving
- Empathetic and adaptive teacher
- Technical communication (written and oral)
- Process enhancer
- Critical thinker
- Works effectively in a team
- Project management

👥 OTHER RELEVANT EXPERIENCE

Present | 2015

Linux Administration Experience

- Distribution's I've managed: Several Ubuntu/Debian based distributions including both Server and Desktop editions, Fedora, CentOS, Manjaro
- Experience managing firewalls, port forwarding, and system services like SSH, SAMBA, FTP
- Server Software I've managed: Rstudio Server, Nextcloud, Plex, Game Servers
- Virtualization software: I have lots hands-on experience with many type 2 hypervisors (QEMU, Docker, VirtualBox, VMWare), and have working knowledge of type 1 hypervisors

2019 | 2016

Student Consultant

Oklahoma State University and Purdue University

- Drew on my expertise in R, GIS, and HPC systems to assist other students, post docs, and research staff within my graduate schools
- Consulting topics included: R scripting, data cleaning and management, code optimizations, running scripts on the HPC systems, and statistical and spatial analysis
- Led help sessions one on one and within small working groups
- Provided detailed presentations about programming, GIS, and statistical methods to lab research groups and graduate level classes

🎓 EDUCATION

2021 | 2020

M.Sc. level coursework in Applied Statistics and Analytics

University of Kansas Medical Center   📍 Overland Park, KS

- Emphasis: Data Science

2019

Ph.D. level coursework in Quantitative Ecology

Purdue University   📍 West Lafayette, IN

2018 | 2016

M.Sc., Natural Resources Ecology and Management

Oklahoma State University   📍 Stillwater, OK

2015 | 2012

B.S., Fish, Wildlife and Conservation Biology

Colorado State University   📍 Fort Collins, CO

- Minor: Spatial Information Management (SIM)

VALUES AND INTERESTS

- Continued Learning - I am always in pursuit of new technology, code libraries, and ideas that can simplify or increase the efficiency of my day to day tasks. If I don't know something give me a couple hours/days and I'll summarize it and teach you.
- Teaching/Mentoring - I have a passion for sharing my knowledge with others. The constant distribution and sharing of knowledge is the best tool to elevate all those around you and prevent technical debt.
- FOSS - I am an advocate for free and open source options that allow fully reproducible science and help others learn. This includes code, educational materials, and blogs.

ACTIVE CODE REPOSITORIES

- Author of organizational packages at Mid-America Regional Council
  - R: marcR, marcRviz, marcRspatial*, marcRwebscraper*, marcRpy*
  - Python: marcpy, marcpyspatial*
- Lead author for the management of Kansas City's COVID-19 Response data pipeline.
  - Covid19MARCData - R package to allow access to all MARC's public COVID-19 data.
  - CovidDataEntry* - Shiny application for managing the entire data pipeline.
- esri2sf Collaborator

* Private repositories but happy to discuss

Made w/ pagedown.
Source code:
github.com/jacpete/Resume_CV.
Last updated on 2022-04-01.