Bijan Seyednasrollah, Ph.D.

https://bnasr.github.io
bijan.s.nasr@gmail.com
GitHub: @bnasr Twitter: @DrEcoInfo

4343 E Soliere Ave, #1086
Flagstaff, AZ 86004
(919) 599-4380

US Work Authorization / Residency Status: US Permanent Resident (Green Card Holder)

HIGHLIGHTS

- Multi-disciplinary data scientist and engineer with 17+ years of experience in computational methods including leadership roles
- Proficient in computational and data analyses, machine learning, image processing, and mathematical modeling
- Proficient developer in multiple platforms and programing languages and packages, e.g., R, Python, C/C+, Fortran, Shiny, GDAL
- Organized and taught technical quantitative workshops for lay and technical audience at professional meetings and universities
- Strong writing skills as proven in over 20 publications in top peer-reviewed journals of quantitative topics
- Strong communication skills as proven in presentations for lay and technical audience at professional meetings
- Strong connections with the academic community in science and engineering in leading universities and national labs
- Refereed 60+ articles for top peer-reviewed journals in quantitative science, modeling and remote sensing

EDUCATION

Ph.D. in Quantitative Environmental Science, Duke University, Durham, NC, USA 2017

M.Sc. in Mechanical Engineering (Computational Methods), Sharif University of Technology, Iran 2006

B.Sc. in Mechanical Engineering (Numerical Modeling), University of Semnan, Iran 2003

Certificate: IBM Data Science Professional (9 Courses on Machine Learning and Visualization in Python and SQL) 2020

Certificate: Data Science Foundations using R Specialization by Johns Hopkins University (5 Courses in R) 2016

SKILLS

Programming and Scripting:
- R, Python, C/C++/C#, Markdown, MATLAB, Python, Mathematica, Java, VBA, Fortran, Shell, HTML/CSS
- Object Oriented Programming (OOP), High Performance Computing (HPC), Multithreaded Programming

Quantitative, Geospatial and Visualizations:
- Hierarchical Modeling, Bayesian Statistics, Markov Chain Monte Carlo (MCMC), Optimizations
- Machine Learning, Deep Learning, Neural Network,
- GIS, Geospatial Analysis, Remote Sensing, Data Elevation Model (DEM) Processing, Image Processing
- GDAL, ggplot2, data.table, dplyr, Shiny, NumPy, SciPy, Pandas, Scikit-learn, Matplotlib, TensorFlow, Keras

PROFESSIONAL EXPERIENCE

Environmental Data Scientist / Geospatial Image Scientist
Harvard University / Northern Arizona University (PhenoCam Network)
- Led data management of the PhenoCam network, 40+ million images from 650+ sites around the globe
- Designed data pipeline for translating raw data to curated, quality checked, and processed final products
- Developed image/data processing routines in R/Python to extract meaningful insight from variety of data types including: Digital images, hyperspectral, Rasters, Shapefiles, JSON, geoJSON, LiDAR, surveyed data, HDF, ... 2017-now
- Developed Machine Learning methods and applied Deep Learning routines to extract insight from digital images
- Regularly communicated with 250+ in-site scientists and technicians globally to assure high quality data stream
- Developed web-based applications for interactive image processing and environmental science
- Developed R packages including *xROI*, solrad, *phenocamapi*, *hazer* for data and image processing, 30,000+ downloads
- Organized technical workshops on image processing and quantitative methods

Doctoral Research Assistant / Quantitative Environmental Scientist
Duke University, Nicholas School of the Environment
- Designed and developed hierarchical models to study climate change impacts across the U.S. using satellite imagery 2011-2017
- Developed nationwide drought monitoring interface using satellite data
- Developed physics-based models (FoRM and GaRM) in C/C++/MATLAB to quantify energy fluxes in watersheds

Senior Researcher / Research and Development Engineer
Research Institute of Petroleum Industry, Department of Energy and Environment, Iran
- Developed a 3D model of multiphase flow in porous media in C/C++ to simulate oil/gas reservoirs 2006-2011
- Developed Energy Performance and Assessment Tools in C# to audit energy in power plants
- Developed Pars Basin Modeler (PBM) in C/C++/Fortran to model sedimentary basins

Director of Mechanical Engineering Magazine
Iranian Society of Mechanical Engineers (ISME)
- Managing the team of editors and staff for the review/publication process 2004-2007
- Editing and reviewing scientific articles
- Preparing Educational Materials for Population and Environment Course