Bijan Seyednasrollah, Ph.D.

bijan.s.nasr@gmail.com
Portfolio: https://bnasr.github.io
GitHub: http://github.com/bnasr
LinkedIn: https://www.linkedin.com/in/bijan-seyednasrollah-70067743/
Google Scholar: https://scholar.google.com/citations?user=re2zPdEAAAAJ&hl=en

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

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

HIGHLIGHTS

- Multidisciplinary Lead Data Scientist with Years of Experience
- Certified TensorFlow Developer (CNN, RNN, NLP)
- Proficient Developer in R, Python, C/C+, Fortran, Shiny, GDAL on Unix-based Systems
- Proficient in Machine Learning, Deep Learning, Image Processing, Computer Vision, Bayesian Statistics and IoT
- Developed Many Open-source Packages, Downloaded 40,000+ Times
- Organized and Taught Quantitative Workshops for Diverse Audience
- Strong Writing Skills as Demonstrated in Over 20 Scientific Articles in Top Peer-Reviewed Journals
- Strong Communication Skills as Demonstrated in Presentations for the Lay and Technical Audience at International Meetings
- Refereed 60+ Articles for Top Peer-Reviewed Journals in Quantitative Science, Modeling and Remote Sensing

EDUCATION

Harvard University, Postdoc in Environmental Data Science**,** Cambridge, MA, USA — 2017

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

Sharif University of Technology, MSc. in Mechanical Engineering (Computational Methods), Iran — 2006

University of Semnan, BSc. in Mechanical Engineering (Numerical Modeling), Iran — 2003

CERTIFICATES

Professional Certificate: DeepLearning.AI TensorFlow Developer (4 Courses on DL, CNN, NLP and Timeseries)

Professional Certificate: IBM Data Science (9 Courses + Capstone on ML & Visualization in Python and SQL, DB2)

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

SKILLS

Languages: R, Python, SQL, C/C++/C#, Markdown, MATLAB, Python, Mathematica, Java, VBA, Fortran, Shell, HTML/CSS, BUGS/JAGS

Paradigms: Object Oriented Programming, High Performance Computing (HPC), Multithreaded Programming, Geospatial Analysis (GIS)

Quantitative: Machine Learning, Deep Learning, Natural Language Processing, Sequence Modeling, Hierarchical Bayesian Statistics

Libraries: ggplot2, plotly, data.table, dplyr, Shiny, NumPy, SciPy, Pandas, Scikit-learn, Matplotlib, TensorFlow, Keras

PROFESSIONAL EXPERIENCE

Lead Data Scientist, PhenoCam
- Led data management of the PhenoCam network, 40+ million images from 650+ sites around the globe
- Designed the data pipeline for translating raw data to curated, quality checked, and processed final products
- Developed ML/DL models in R & Python to extract insight from structured and unstructured data
- Developed web-based apps, and open-source applications for interactive image processing

2017-now

Environmental Data Scientist, Duke University
- Designed and developed hierarchical models to study climate change impacts across the US using satellite data
- Developed nationwide real-time drought monitoring interface: https://bnasr.github.io/droughteye
- Developed physics-based models (FoRM and GaRM) in C/C++/MATLAB to quantify energy fluxes in watersheds

2011-2017

Senior Computational Engineer, Research Institute of Petroleum Industry, Iran
- Led the backend software development team (C/C++/C# and Fortran)
- Managed software development and R&D projects for the oil and gas industry
- Developed a 3D simulator of multiphase flow in porous media, and the Energy Performance and Assessment Tools

2004-2011

Design Engineer, TPF Consulting Engineers
- Prepared Construction Documents for Petrochemical Plants
- Designed Heat Exchangers and Cooling Towers

2003-2004

AWARDS

NASA Advanced Information Systems Technology, National Aeronautics and Space Administration — 2020

ESA Early Career Scholar Award, Ecological Society of America — 2019

NEON Data Institute Fellowship, National Ecological Observatory Network — 2018

Outstanding Accomplishments Fellowship, Duke University — 2017

Pathfinder Fellowship, The Consortium for the Advancement of Hydrologic Science Inc. (CUAHSI) — 2014

LED WORKSHOPS

Data Fusion: Combining Image and Timeseries Data, (Boulder, CO, 2019)

Beyond Data: Navigating NEON Data, (Louisville, KY, 2019)

New Advances in Modeling: Introduction to PhenoCam Data Products and Software Tools (Flagstaff, AZ, 2019)

Time-series analysis from image datasets: Introduction to PhenoCam Data Products and Software Tools (Washington, DC, 2018)

Time-series analysis from image datasets: Introduction to PhenoCam Data Products and Software Tools (Flagstaff, AZ, 2018)

Source Control and Reproducible Science (Flagstaff, AZ, 2018)

Visual Basic Programming for Engineering (RIPI, 2010-2011)

SELECTED PUBLICATIONS

Seyednasrollah, B. and J. S. Clark (2020), "Where resource-acquisitive species are located: The role of habitat heterogeneity", Geophysical Research Letters, https://doi.org/10.1029/2020GL087626

Seyednasrollah, B., et al. (2020) "Sensitivity of deciduous forest phenology to environmental drivers: Implications for climate change impacts across North America", *Geophysical Research Letters,* https://doi.org/10.1029/2019GL086788

Seyednasrollah, B., et al. (2019), "Tracking vegetation phenology across diverse biomes using PhenoCam imagery: The PhenoCam dataset v2.0", *Scientific Data,* https://doi.org/10.1038/s41597-019-0229-9

Seyednasrollah, B., et al. [116 co-authors] (2019). PhenoCam Dataset v2.0: Vegetation Phenology from Digital Camera Imagery, 2000-2018. ORNL DAAC, Oak Ridge, Tennessee, USA, https://doi.org/10.3334/ORNLDAAC/1674

Seyednasrollah, B., et al. (2019), "Data extraction from digital repeat photography using xROI: An interactive framework to facilitate the process", *ISPRS Journal of Photogrammetry and Remote Sen*sing, https://doi.org/10.1016/j.isprsjprs.2019.04.009

Seyednasrollah, B., et al. (2019), "Spatiotemporal sensitivity of thermal stress for monitoring canopy hydrological stress in near real-time", *Agricultural and Forest Meteorology*, https://doi.org/10.1016/j.agrformet.2019.02.016

Seyednasrollah, B., et al. (2018), "Leaf phenology paradox: Why warming matters most where it is already warm", *Remote Sensing of Environme*nt, https://doi.org/10.1016/j.rse.2018.02.059

OPEN-SOURCE SOFTWARE

Seyednasrollah, B., D. Basler, S. Beals, J. Beasley, A. Greene, J. Kelroy, M. S. Carbone, and A. D. Richardson (2018), "FluxPuppy: Android interface to Licor LI-820 and LI-840 gas analyzers", Zenodo. http://doi.org/10.5281/zenodo.1438548.

Seyednasrollah, B., T. Milliman and A. D. Richardson (2018), "xROI: A toolkit to delineate region of interests (ROI's) and extract time-series data from digital repeat photography images", Zenodo. http://doi.org/10.5281/zenodo.1202273.

Seyednasrollah, B. (2017), "drawROI: An interactive toolkit to extract phenological time series data from digital repeat photography", Zenodo. http://doi.org/10.5281/zenodo.1066588.

Seyednasrollah, B. (2017), "hazer: Quantifying haze factor for RGB images to identify cloudy and foggy weather", Zenodo. http://doi.org/10.5281/zenodo.1008568.

Seyednasrollah, B. (2016), "solrad: To calculate solar radiation and related variables based on location, time and topographical conditions", Zenodo. http://doi.org/10.5281/zenodo.1249673.

REFREE

Scientific Referee for the following journals:

Nature Climate Change (x4), Scientific Data, Science of the Total Environment (x2), Geophysical Research Letters, Frontiers in Ecology and the Environment, Journal of Geophysical Research: Atmospheres, Journal of Geophysical Research: Biogeosciences, EGU Biogeosciences (x3), Agricultural and Forest Meteorology (x7), Remote Sensing of Environment (x3), Methods in Ecology and Evolution, ISPRS Journal of Photogrammetry and Remote Sensing (x2), ISPRS International Journal of Geo-Information, International Journal of Digital Earth, Climate Research, Ecosphere, Solid Earth, Remote Sensing (x5), Water (x9), Forests (x2), Atmosphere (x3), Sustainability (x5), Forecasting (x2), Data (x2), Geosciences, Entropy, Applied Sciences, Asia-Pacific Journal of Chemical Engineering