

Neda Kasraee

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Skills

- Spatial & Non-Spatial Technical Analysis
- Proposal and Report Documentation
- Project Management & Leadership
- Customer Service & Consulting
- Field Data Collection with GPS
- Geographic Information Systems (GIS) – ArcGIS & QGIS
- Remote Sensing
- Map Design (paper & online)
- Data Analysis & Visualization
- Dataset Management & Organization
- Public Speaking
- Programming: Python, Google Earth Engine (GEE) & R

Professional Experience

Research Assistant at SILVIS Lab at University of Wisconsin – Madison

Sep. 2020 – Aug. 2022

- Two thesis chapters apply machine learning algorithms, coding, and GIS for feature extraction in remotely sensed imagery
- Utilize historic and current satellite imagery, airborne imagery, environmental data (vector and raster), and Google Earth Engine, Python, and GIS (QGIS & ArcGIS) to create land cover maps for forestry applications

Scientist - Radar Science and Engineering at NASA Jet Propulsion Laboratory

May 2019 – Aug. 2020

- Provided technical knowledge and support to project clients and collaborators for one of NASA's airborne science teams
- Processed remotely sensed data (optical & SAR) with GIS and coding for different teams and projects at JPL including projects that studied flooding, natural disasters, forestry, and agriculture.
- Documented technical procedures for the team on processing workflows, flight planning logistics, and software tests
- Conducted field work measuring trees (height, plot dimensions, DBH, ...) in tandem with airborne science mission
- Engaged the public and NASA collaborators by creating outreach materials such as an ArcGIS Online mapping portal, maps, and presentations
- Designed maps and conduct GIS analyses to provide input into the preparation of proposals

Research Fellow & Project Lead at NASA Jet Propulsion Laboratory

Jan. 2018 – Apr. 2019

- Conducted GIS analyses on remotely sensed data for feasibility projects involving outside agency collaborators. Feasibility projects had various applications including forestry, agriculture, and natural disasters.
- Created maps (online, paper) and visuals for group meetings, seminars, and conferences
- Managed project impact assessments by compiling and processing data and results with GIS (ArcMap) and R programming for 50+ projects
- Developed "how-to" documents and provide training materials for team members who had an elementary understanding of GIS and spatial technologies

- Research Assistant** at California Polytechnic State University, San Luis Obispo *Jan. 2017 – Jan. 2018*
- Investigated correlations between hyperspectral bands and water retention in plants using spectral indices in hyperspectral imagery taken over agriculture fields

- GIS Intern** at the County of San Luis Obispo, Public Works Department *Jul. 2016- Jan. 2018*
- Mapped, analyzed, edited, and validated data for the county's GIS database in ArcMap and Esri Enterprise
 - Utilized ArcGIS server and ArcGIS online to show county construction projects
 - Digitized the county's map index by mapping county monuments, corner records, parcel maps, records of surveys, and tract maps in ArcMap

Education

MS in Forestry | University of Wisconsin – Madison | September 2020 – August 2022

BS Environmental Earth Sciences | California Polytechnic State University, San Luis Obispo | September 2014 - June 2018 | Minors in GIS and Soil Science

Conference Presentations (¹ Oral Presentation, ² Invited)

Conference Paper - Denbina M., Towfic Z.J., Thill M., Bue B., Kasraee N., Peacock P., and Lou Y. "Flood Mapping Using UAVSAR and Convolutional Neural Networks," IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Hawaii, USA, 2020

Denbina M., Towfic Z.J., Thill M., Bue B., **Kasraee N.**, Peacock P., and Lou Y. "Automatic Per-Pixel Classification of UAVSAR Imagery for Hurricane Flood Detection," Second AI and Data Science Workshop for Earth and Space Sciences, California, USA, 2020

Au M., **Kasraee N.**, Moneymaker B., and Beltran G. "Monitoring Bighorn Sheep Habitat by Assessing Vegetation, Topography, and Soil Moisture," 15th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region - Animal Ecology and Nonnative Species, Arizona, USA, 2019

Kasraee N., Lacznak D., Rose M., and Rousseau N. "A Multi-Sensor Approach to Determine the Impacts of Human Activity and Natural Surface Deformation on the Black Rock Playa," NASA Jet Propulsion Laboratory Data Science Showcase, California, USA, 2019

^{1,2} **Kasraee N.**, Lacznak D., Rose M., and Rousseau N. "A Multi-Sensor Approach to Determine the Impacts of Human Activity and Natural Surface Deformation on the Black Rock Playa," Esri Federal GIS Conference, Washington D.C., USA, 2019 [Announcement](#)

Kasraee N., Au M., Higa E., and Lee B. "Improving Flood Extent Mapping Using NASA Earth Observations and UAVSAR within Southern California," American Meteorological Society (AMS) 99th Annual Meeting - 17th Symposium on the Coastal Environment, Phoenix, USA, 2019 [Abstract](#)

^{1,2} **Kasraee N.**, Au M., Higa E., and Lee B. "Improving Flood Extent Mapping Using NASA Earth Observations and UAVSAR within Southern California," Annual Earth Science Application Showcase (AESAS), Washington D.C., USA, 2018