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www.github.com/dvignoles

Daniel Vignoles

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Education

Geoinformatics, M.S. **Hunter, City University of New York** **expected Dec 2023**
- **Coursework:** Remote Sensing, Digital Image Processing & LiDAR, Geocomputation, Spatial Databases

Computer Science, B.S. **City College, City University of New York** **Dec 2020**
- **Coursework:** Database Systems, Web Design, Operating Systems, Big Data Management, Data Science

Employment

Research Assistant **CUNY Advanced Science Research Center** **July 2018 - Present**
- Engineer ETL post-processing workflows for high resolution raster time-series model outputs
- Implement PostGIS database design and custom PL/pgSQL functionalities
- Distribute model data products via OGC web services with Geoserver
- Develop python package to interface with proprietary model file formats and CLI workflows
- Provision on-premises kubernetes cluster infrastructure and containerized applications
- Produce web visualizations and statistical metrics to summarize geospatial model outcomes
- Leverage knowledge in Python, Git, Bash, Geoserver, PostGIS, Docker, Kubernetes, Leaflet

NCEP Student Intern **NOAA NCEP** **June 2019 - Sep 2019**
- Developed data visualization project using NOAA Science on a Sphere global display system
- Automated visualization workflows of NOAA satellite imagery, model forecasts, and in-situ data
- Leveraged knowledge in Python, Bash, Unix, GIS

Building Re-tuning Internship **CUNY Building Performance Lab** **Sep 2018 – May 2019**
- Developed visualization web dashboard for HVAC logger data using R Shiny
- Leveraged knowledge in R, Web Development

Software Projects

Personal Website: www.dvignoles.github.io

River-GIS Python Package (https://github.com/dvignoles/rgispy)
- Developed a python toolkit for the River-GIS model ecosystem
- Formalized team data workflows into routines and CLI tools using object oriented data model
- Utilized Pandas, Geopandas, Rasterio, Xarray, Docker, Multiprocessing

GEE Global Water Resources Web Map (https://dvignoles.users.earthengine.app/view/tarw)
- Developed global country level water resource estimation tool using historical model run
- Imported high resolution raster time series into GCP / GEE as cloud optimized GeoTIFF
- Utilized Google Earth Engine, Google Cloud Platform, Rasterio

Water Balance Climate Scenario Web Map (https://newsogc.environmentalcrossroads.net)
- Developed future climate scenario hydrology model results visualization and download tool
- Cataloged 10 terabytes of model data as Geoserver image mosaic layers
- Utilized Django, Leaflet, Geoserver, WMS, WCS

Kubernetes Raspberry Pi Cluster (https://dvignoles.github.io/blog/post-picluster)
- Built and configured k3s cluster with GitOps managed infrastructure
- Utilized Kubernetes, Docker, Helm, Docker, Postgres, Flux, Cert-Manager, Traefik, Rancher

Skills

Software: (*proficient*): Python, SQL, Unix, Docker, Geoserver, GDAL (*familiar*): Airflow, ArcGIS, C, Javascript, R