Rick Debbout

1685 SW Knollbrook Pl. Corvallis, OR I (208) 351-3820 I debboutr@gmail.com

Software Engineer – GIS Analyst

- Resourceful and analytical IT professional with 7+ years of diverse experience
- Possess a solid knowledge of open source geospatial packages, and the collection, analysis and storage of geographic data
- Independently troubleshoot new software / languages / libraries
- Collaborate with and mentor others well

Areas of expertise:

Project Management	Web design
Manipulate/visualize geographic data	Database Management
Data Analysis	Process automation

Technical skills: version control with git, virtual envs in python, r, javascript, html, css, QGIS, ogr, gdal, SQL, ArcMap, elasticsearch, GIMP, vim, linux, node, agile, test-driven development

Common Libraries: numpy, rasterio, geopandas, django, folium, d3, leaflet, react, pyhum, shapely, pandas, tkinter, selenium

PROFESSIONAL EXPERIENCE

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA), Corvallis, OR *Contracted through General Dynamics*

Associate Software Engineer, December 2014 – present

- Write scripts for accumulating statistical data and QA for watershed metrics in the StreamCat and LakeCat datasets. Process landscape characteristics for watershed in the National Aquatic Resource Survey (NARS)
- Work remotely using Agile development to build an application for characterizing chemical components of consumer products with django / MySQL / elasticsearch / git. Build visualizations from harmonized product use categorizations
- Web scrape social media APIs for images in defined geographical areas to inform resource use/value within the community
- Map textures on lake bottoms using data collected from Hummingbird side scan sonar for classification of ecological zones and analysis of their change over time using the open-source python library PyHum
- Build scripts to clean and prepare video clips for use in the citizen science application Zooniverse. ETL data through use of their API. Bulk load videos through YouTubeAPI

GEOSPATIAL SERVICES, Winona, MN

GIS Technician, August 2012 – June 2014

- Delineate wetlands for the National Wetland Inventory using NAIP and infrared imagery into geodatabase
- Build scripts with the arcpy module to automate image processing workflow
- Georeference images using ArcMap, learn file management, teach others the workflow
- Convert scanned photogrammetric transparencies to vector data with ArcScan, clean and QA for geodatabase

HIGHLAND GOLF SERVICES, Driggs, ID

Survey Technician / Design Assistant, August 2007 – October 2008
- Survey and record golf course specifications. Operated Trimble differential GPS rover to inform construction crews. Recorded surface features for asset management
- Build 3D models of golf greens using TerraModel and survey data
- Organize efforts with stakeholders across multiple teams to coordinate design intent and scope

EDUCATION

ST MARY'S UNIVERSITY, Winona, MN

Masters in Geographic Information Science, 2014

OREGON STATE UNIVERSITY, Corvallis, OR

Bachelor of Science, Horticulture, 2007
- ***Turf and Landscape Management***

UNIVERSITY OF WISCONSIN - MILWAUKEE, Milwaukee, WI

Bachelor of Business Administration, Management Information Systems, 2003

Certifications:
- Web Design and Development, Oregon State University
- Elasticsearch Engineer – *...in progress*

ADDITIONAL WORK

Publications:
Hill, R., M. Weber, R. Debbout, S. Leibowitz, AND Tony Olsen. The Lake-Catchment (LakeCat) Dataset: Characterizing landscape features for lake basins within the conterminous USA. Freshwater Science. The Society for Freshwater Science, Springfield, IL, 37(2):208-221, (2018).

Teaching Workshops:
WILLAMETTE UNIVERSITY, Salem, OR
Guest Lecturer, Fall 2016

- Advanced spatial science course in creating an open source GIS environment and exploring useful tools for raster/vector data using geopandas and folium in an Ipython notebook

OREGON STATE UNIVERSITY, Corvallis, OR
Guest Lecturer, Spring 2017

- Introduction to QGIS for students and attendants of Research Advances in Fisheries, Wildlife, and Ecology Symposium. Hands-on overview of the open-source program

Volunteer projects:
CORVALLIS TO COAST TRAIL – Composing full-scale physical trail map for bikers/hikers w/ QGIS

CORVALLIS BICYCLE COLLECTIVE DB – Developing a point-of-sale and user interface using django to improve the user interface for employees and members of the collective