Ian C. Reese
Geospatial Developer / Engineer

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PROFILE

I'm an experienced geospatial developer / engineer **specializing in web mapping, raster and point cloud data analysis, and cloud based scaled processing**. I'm proficient in Python and implementing open source geospatial technologies. I'm a curious self starter with a solid work ethic and the ability to deliver projects on time and on budget. I'm a dual citizen of the United States and New Zealand, and I have the right to work in Australia.

LANGUAGES AND TOOLS

Python, Bash, Docker, Make, GDAL, PDAL, QGIS, PostGIS/PostgreSQL, QPy, GeoPandas, Fiona, PyProj, R, GRASS GIS, SAGA GIS, Adobe CS, ArcGIS, CartoCSS, Linux, Mapnik, MapProxy, Terraform, various AWS services ie. EC2 and S3, HTML/JS/CSS, Mapbox GL JS, Openlayers, Leaflet, PyTorch

EDUCATION

Landscape Architecture, MSLA
The Pennsylvania State University   2011

Mechanical Engineering, AS
The Pennsylvania State University   2008

Institutional Mgmt, BS
The Pennsylvania State University   2000

PUBLICLY AVAILABLE PROJECTS

SWA Flood Mapping
https://swa-impactmap.dragonfly.co.nz/

WESM Gridding
https://github.com/xycarto/wesm-grids

QGIS Tiling
https://github.com/xycarto/qgis-tiles

National Base Mapping Service POC
http://tiles.maps.linz.io/

PROFESSIONAL EXPERIENCE

Founder
XYCarto Ltd.   *Jan 2020 - Present*
- Tile server development of COGs, raster and vector tile caches in XYZ/TMS/WMTS
- Development for online mapping via OpenLayers and Leaflet
- Raster data and point cloud analysis, interpolation, and formatting
- Scaled scripting/automation for AWS

Senior Geospatial Developer - Contract
Dragonfly Data Science   *Jan 2021 - Oct 2023*
- Development of data pipelines for 400k+ LiDAR and satellite data. Translation to DSM, DEM, CHM, tree points, tree approximate objects, and elevation surfaces.
- Scaled pipeline engineering using S3, EC2, Kubernetes, and Terraform
- Automated process development for AWS
- Web and tile server development using Openlayers and Maplibre

Geospatial Developer and Visualization Specialist - Contract
CreativeHQ - GovTech Lightning Lab   *Oct 2020 - Dec 2020*
- Three month accelerator project exploring discoverability, accessibility, and capability of LIDAR across New Zealand.
- Proof of concept for online point cloud discovery tool
- Point cloud processing for surfaces, COG, tiling, and visualization

Senior Spatial (GIS) Analyst
Land Information New Zealand (LINZ)   *Nov 2013 - Dec 2019*
- Geospatial data analysis and interpolation via open source tooling
- XYZ/TMS/WMTS web development
- Cartographic visualization using QGIS, HTML, JS, CSS, CartoCSS and Adobe CS tools
- Development and cartography for proof of concept base mapping system: https://tiles.maps.linz.io/
- Online Antarctic base map for LINZ Gazetteer website
- In house training for scripting, automation, and GIS best practices

3D Specialist GIS - Contract
Geographx   *July 2013 - Nov 2013*
- 3D visualization using Skyline Globe, Global Mapper, Natural Earth, and Adobe CS. Graphic arts and animation for publications, web, and research.

GIS Consultant/Analyst
The College of William and Mary / AidData *Feb 2012 - July 2013*
- LiDAR data management, data visualization