

Lillian L. Pierson, P.E.
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Location Independent Entrepreneur
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Lillian L. Pierson, P.E.

Lillian@LillianPierson.com

SUMMARY OF QUALIFICATIONS

- Spatial data scientist, GIS programmer, and data analytics engineer
- Professional Engineer (P.E.) - NCEES, 2013
- Crisis mapper and digital humanitarian responder
- International public speaker delivering talks on the subjects of digital technology, big data, data science, GIS, and digital humanitarian response
- Experienced lecturer: Experience teaching IT / GIS skills to undergraduates and at-risk youth
- Professional journalist and blogger: Writing about big data, data science, statistics, social computing, environmental engineering, spatial data science, and world travel
- Accomplished solo woman world traveler: Traveled to 24 countries, mostly in the developing world
- Author of a how-to manual for independent world travel
- Entrepreneur and small business owner

SUMMARY OF SKILLS

- 13 years' experience with spatial data analysis and mapping - utilizing ArcMap, QGIS, R, CrowdMap, and Google Map Engine
- Crisis mapping and digital humanitarian response - including remote crisis mapping, data analysis, and on-the-ground digital humanitarian deployment support
- Data visualization and analysis - using SQL, Python, R, SAP, ArcGIS, GeoDa, CrimeStatIII, MapBox, Access, and QGIS for the production of data analytics dashboards and for spatial data analysis
- Statistical methods - using Poisson distribution, inhomogeneous Poisson distribution, Monte Carlo testing, IDW, and stochastic kriging to describe and model spatial data patterns
- Social Computing - using social network analysis, social network interactions, crowdsourcing, open source software, blogs, and instant messaging to coordinate large scale deployments and engage with a broad spectrum of thought-leaders

PROFESSIONAL LICENSURE AND TRAINING

- NCEES Professional Engineer (P.E.) License - Florida, **2013**
- ArcPy GIS Programming 101 & 201 for ArcGIS 10.0 and 10.1 (GeoSpatial Training Services), **2013**
- R, GeoDa and ArcGIS for Geographic Information Analysis (PennState Online Open Education), **2013**
- FEMA Emergency Support Training, **2012**
- NCEES Engineer in Training (EIT) License - Alabama, **2008**
- Stormwater, Erosion, and Sedimentation Control Inspector - Florida, **2006**

PROFESSIONAL EXPERIENCE AND FUNCTIONS

2013 - Present [Data-Mania](#)

Founder and Chief Data Scientist

| *Location Independent*

- Creating compelling maps, visualizations, and publications for data-driven solutions to business, social, and environmental problems. Working as a journalist for Wiley's StatisticsViews and UBM's Internet Evolution. Writing about big data, data science, applied statistics, environmental engineering, GIS, spatial, network analysis, and social computing.

2011 - Present [Renegade World Travel](#)

Founder and Travel Writer

| *Location Independent*

- Sharing tips, tricks, reviews, and stories about awesome places around the world. Telling stories about all the cool places you can go, but focusing on what really matters – giving back.

2013 – Present Standby Volunteer Task Force

Core Team Member

| *Location Independent*

- Core Team Member and Co-Lead for the Monitoring & Evaluation Team. Monitoring & Evaluation Team monitors, evaluates, and optimizes SBTF internal systems and information product utilization during on-the-ground deployments. On-call to coordinate and develop humanitarian response deployments that involve crowdsourcing, mapping, and analysis. Supported the Typhoon Yolanda activation by performing data analysis, commissioning and delivering scrapers, geolocating, and by intermittently serving as deployment lead. Supported Harvard's HSI Simulation 2013 by acting as on-the-ground humanitarian liaison and by assisting with the preparation of training documents. Supported Uttarakhand Flood Relief and UN OCHA's Baluchistan Earthquake Response through microtasking, geolocating, and processing deployment data. Working with mappers, developers, policy analysts, engineers, disaster response managers, students, digital information activists, and independent technical consultants from all over the globe.

2013 - Present Ushahidi

Crisis Mapper and Data Analyst

| *Location Independent*

- Remote mapping and data analysis volunteer for Ushahidi, a digital humanitarian crowdsourced response platform. Supported the Uchaguzi Kenya Election Monitoring deployment of 2013. Working with digital information activists, NGO workers, doctors, software engineers, web developers, policy analysts, and disaster relief workers of all types.

2013 - Present Humanitarian OpenStreetMap (HOT)

Mapper

| *Location Independent*

- Serving as a stand-by HOT volunteer. Supported the crowdsourced effort, "Mapping for Preparedness in Nepal Initiative" on 2013 International Open Data Day.

2012 - Dec 2013 Orange County Community, Environmental & Development Services Decision-Support GIS Specialist

| *Orlando, FL*

- Spatial data analyst, programmer, and agile data analytics developer wherein I functioned as an on-call internal data science and data visualization consultant. Consulted with non-technical internal management clients to help them select metrics, identify KPIs, and choose visualization types. Wrote scripts and designed models to automate data maintenance and analysis tasks. Served as Emergency Operations Intelligence (GIS) for hurricane and disaster response. Designed a custom-scripted reporting and mapping tool to monitor the work of GIS staff over designated time intervals. Predicted quantities for existing (undocumented) county-wide stormwater infrastructure to 97% accuracy. Managed and delivered a customizable multi-criteria analysis model for the automated determination of prime sites for economic development across the county. Wrote detailed documentation to support this tool. Led data reporting deployment and carried out associated QA tasks. Designed, managed, built, and delivered proof of concept dashboards for Orange County's first-ever dashboard analytics program. Supervised the GIS Graphic Design Intern. Built custom QC tools that replicate ESRI Data Reviewer capabilities so GIS maintenance staff could QC their work without a Data Reviewer license.

2011 Orange County Environmental Protection Division

Environmental Engineer

| *Orlando, FL*

- Reviewed solid waste permit applications. Evaluated status of a long-standing County clean-up case. Supported engineering preparations for Development Review Committee meetings.

2007 - 2010 Barnes, Ferland, and Associates Environmental Consultants (BFA)

Project Engineer

| *Orlando, FL*

- Designed, permitted, and helped manage engineering projects for sewer collection systems, sewer rehabilitations, pump stations, WWTP modifications, and stormwater storage ponds. Coordinated and managed nationwide Integrated Solid Waste Management Planning (ISWMP) projects. Monitored and performed determination of landfill gas emissions, water quality,

wetland boundaries, and sub-basin delineations. Used H2OMap and H2OMap Sewer to perform spatial hydraulic modeling for both water and sewer system design. Performed numerical and statistical methods for pricing optimization in water usage rate studies. Wrote technical plans, reports, and documentation. Prepared project specifications. Managed and delivered GIS projects for sub-basin delineation studies and ISWMPs that involved engineering analysis, GPS data collection, and field mapping. Designed lesson plans for and performed training of GIS to disadvantaged youth. Worked as an engineering consultant for external government clientele. Represented BFA and facilitated tasks between government clients, vendors, contractors, and sub-contractors.

2008 Valencia College

Adjunct Professor | Orlando, FL

- Designed lessons, lectured, and trained college students in ArcGIS 9.2.

2006 - 2007 Stormwater Management Academy (SMA)

Environmental Engineer Intern | Orlando, FL

- Performed regression analysis to develop models that use historical precipitation and evapotranspiration data to predict runoff rates from central Florida green roofs. Coordinated SMA annual conferences.

2005 - 2006 Orange County Environmental Protection Division (OCEPD)

Environmental Engineer Intern | Orlando, FL

- Led the OCEPD GIS street sweeping mapping initiative. Worked with a programmer to generate scripts that enabled GIS users to generate map coverage and frequency of street sweeping activities across the county. Developed a database to help Petroleum Cleanup managers track the status of their remediation projects. Carried out statistical and numerical methods to determine the success of a lake bioremediation study. Mapped all stormwater sewer overflow occurrences throughout the county.

EDUCATION

2007 University of Central Florida | Orlando, FL
B.S., Environmental Engineering

OTHER VOLUNTEER EFFORTS

2013 - Present International Network of Crisis Mappers | Location Independent
2009 - 2010 Engineers Without Borders | Orlando, FL
▪ Vice-Fundraising Chair
2008 - 2010 Florida Water and Environment Association | Orlando, FL
▪ Central Florida Chapter Secretary
▪ State Awards Chair

LANGUAGES

English – Fluent | **Spanish** - Moderate written and spoken proficiency

REFERENCES

References available upon request