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What Have You Accomplished?

Managing GIS: A column from members of the Urban and Regional Information Systems Association

By Chris Akin, Dunaway Associates and GIS Resumes

At some point, everyone looks for a job, whether straight out of college or partway through a career, voluntarily or involuntarily. In standard hiring practices, all job applicants have to submit a résumé—through a human resources department, a colleague, or even a friend.

This résumé is a job candidate's one shot at making a first impression. The right one can land someone a job interview. The wrong one can put anyone straight into the "no" pile.

So what makes a strong résumé? For starters, résumés need to highlight accomplishments, not previous responsibilities. To ensure that your résumé actually does this, here are some tips I have compiled after sifting through countless résumés over the years.

It's About Accomplishments, Not Responsibilities

Aside from general errors and avoidable typos (I had someone misspell *SQL* once), most people are making one glaring mistake on their résumés: they aren't telling hiring managers what they have actually accomplished in their careers.

Accomplishments are different from responsibilities. Responsibilities are the tasks and activities that someone was hired to do; anyone hired for that position can list out the same job responsibilities. Accomplishments, however, are the results of effectively carrying out those responsibilities; only people who execute a job well can put accomplishments down on their résumés.

The most straightforward way to present accomplishments is by having a series of bullet points underneath each job subheading that highlight what you achieved. This shows hiring managers that you have done most, if not all, the tasks required to perform well in the role they are hiring for.

How to Change Course

There's a simple way to turn a responsibilities-oriented résumé into an accomplishments-oriented résumé. It requires a simple, two-step process.

First, underneath one of your previous job titles, write a brief, one-to-two-sentence paragraph that explains what you were hired to do (i.e., your primary responsibilities). Second, in a subsequent set of bullet points, list out what you actually achieved in relation to those responsibilities. Then do that for every single job on your résumé.

To illustrate how this works, here's an example. In their current positions, Sandra and Bob both work on Lidar data conversion projects. Bob, sadly, is often behind schedule, has to continually fix errors, and never tries to figure out how to improve the process. Sandra, on the other hand, always processes her files quickly and accurately. She also figured out how to automate the conversion process and improve production procedures. In fact, Bob started using Sandra's script for his conversions.

Both Sandra and Bob could write the same bullet points on their résumés:

Converted CAD and PDF files
Proficient in ArcMap and Python

Those are responsibilities, though. Both Sandra and Bob are asked to convert Lidar files in their day-to-day jobs and both can do at least some work in ArcMap and Python. And using a fuzzy word like "proficient" when trying to illustrate a skill set doesn't demonstrate actual knowledge or aptitude.

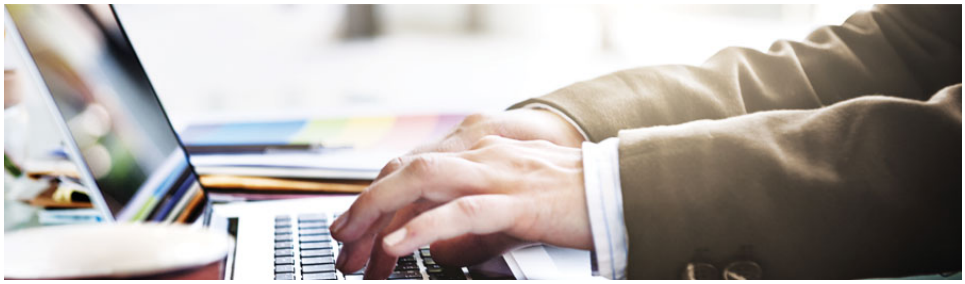
If Sandra were to list what she's actually accomplished, however, then she would set herself apart from Bob. Here's how:

Increased data conversions 17% by developing custom Python script using ArcPy and ArcMap 10.5
Converted 1,000 Lidar files (*.las) with no data errors by implementing a comprehensive QA/QC process

Increased project profitability by $10,000 by streamlining production process and coordination
Reduced project delivery time frame by engaging client regarding data delivery issues

Bullet points like these go above and beyond the bare minimum and show Sandra's accomplishments. They highlight not only what she does at her current job but also the results she's achieved by doing good work.

Hiring managers want to see how candidates have added value to their organizations so they can assess whether applicants can do the same in the role they're hiring for. Writing, "Used ArcGIS Online" is okay, supporting your claim with data, "Made 20 apps using ArcGIS Online," is a bit more telling. Writing, "Increased public awareness of municipal permitting applications by building 20 ArcGIS Online apps" is even better.



Job candidates need to show hiring managers what they have accomplished in their careers, not simply what they have been responsible for doing.

Verb, Result, Action

To write powerful accomplishment bullet points, they need to be put into a verb-result-action format.

First, start with a powerful verb such as *Improved*, *Increased*, *Reduced*, *Delivered*, *Developed*, or *Implemented*. Avoid less definitive verbs like *Supported*, *Assisted*, *Helped*, *Learned*, *Tackled*, and *Pursued*. These undescriptive verbs are vague and leave too much room for interpretation. When I see that someone *supported* a project, for instance, I wonder if s/he engaged clients and drove the process forward or just answered phones all day. I can't know for sure, so I am free to assume the worst—otherwise, the candidate would have told me more if s/he had actually done more.

Next, note what resulted from the action. What was the great outcome? Whenever possible, use metrics to add more weight. Here are a few questions to ask to get started on this:

Why did I do the project?
What was the final product?
Was there an efficiency or financial gain?
Did I reduce cost or turnaround time?

Answering those questions should elicit verb-result phrasing like the following:

Increased production capacity 20%...
Developed 40 maps and apps monthly…
Reduced delivery time by 90%...
Implemented a $50,000 project on time and under budget…

Finally, the action portion of a bullet point addresses how the result was accomplished—i.e., which software, technology, skills, and other tools you used to get those outcomes. Some samples include the following:

…by implementing ArcGIS Enterprise
…using .NET, HTML5, and custom web services
…through researching available technology and making informed recommendations
…using Microsoft Project Gantt charts

It helps to transition between the result and action part of each bullet point with the words *using*, *through*, or *by*.

The One-Page Conundrum

Job applicants should load up their résumés with as many accomplishments as possible. But doing that can make layout challenging, especially because every résumé—yes, even ones that chronicle 20-year careers—should fit on one page.

Large headings, lots of white space, and long sentences all eat up valuable space on a résumé. Adjust the margins, shrink the fonts, and reduce line spacing to make more room for accomplishments. Keep contact information to two lines. The longer you've been out of school, the shorter your education section can be. As you get further along in your career, one line per degree should suffice. Until then, treat your education as you would a job entry, complete with accomplishment-oriented bullet points.

Finally, make sure no bullet point exceeds one line. Being concise ensures that each statement packs power. More importantly, this gives you more room to add additional accomplishments. If you end up with more bullet points than you can fit onto one page, great! Pick and choose from your long list of accomplishments and tailor each résumé you send out to the job you're applying for. Then save all the extra bullet points for a job application where they're a better fit.

Start Now

Hiring managers must make quick decisions on job applicants' capabilities, and all they have to base those decisions on is the information each candidate gives them. Having powerful, effective accomplishments on your résumé will help yours stand out when applying for your next job.

Putting together a good résumé takes time and a lot of hard work. If you start updating yours now, it will ideally be ready long before you need it. And if you commit to refining your accomplishment bullet points every three to four months, you will always have your entire career well documented.

So dust off that old résumé and start compiling a new and improved one today!

Read other articles in the Managing GIS series.

About the Author

Chris Akin, GISP, is the GIS manager at Dunaway Associates and the owner of GIS Resumes, a firm that offers GIS job applicants with help crafting résumés and cover letters. Akin has almost two decades of experience in developing and managing geospatial projects, strategies, and processes and is dedicated to helping GIS professionals achieve their career goals. He is a former member of the board of directors of the Urban and Regional Information Systems Association (URISA), the former president of the New England URISA chapter, and the current president of URISA Texas. Follow Akin on LinkedIn and on Twitter as @ChrisAkin98.

Anonymous Student

astudent@gmail.com
123-456-7890
123 Main Street
Anytown, PA 55555
linkedin.com/in/astudent

Skilled educator with a strong background in the geosciences, GIS, and mathematics. Always striving to learn more, grow to the fullest, and educate others. I have a great passion for conservation, sustainability, and building an environmentally conscious community.

RELEVENT WORK EXPERIENCE

Bear Mountain Butterfly Sanctuary, Environmental Educator/Manager, Jim Thorpe, PA. 2009-2017

- Supervised and trained 8 other employees.
- Designed and implemented a new organizational system for daily income, payroll, taxes and receipts.
- Developed educational programs for visitors and schools specifically about monarch butterfly migration, moths, exotic frogs, and environmental impacts.
- Raised multiple species of butterflies and exotic frogs and assisted in the development and maintenance of live butterfly gardens and exotic frog habitats.
- Developed hands-on activities for families to experience live butterflies, exotic frogs, and axolotls.

Chesapeake Bay National Estuarine Research Reserve, Education Intern, Annapolis, MD. Summer 2015

- Assisted CBNERR staff at Jug Bay Wetlands Sanctuary in Lothian, MD with various teacher events.

Deprt. of Natural Resources Chesapeake and Coastal Services, Education Intern, Annapolis, MD. Summer 2017.

- Constructed a student-friendly index of biotic integrity for brackish water coasts of the Chesapeake Bay to be implemented into elementary and middle school classrooms.
- Collaborated with Chesapeake and Coastal Services staff to develop classroom materials that apply Maryland Department of Education and general science standards.

EDUCATION

2019. B.S. in Geoenvironmental Studies, Minor in Mathematics, and GIS Certificate. GPA 3.4/4.0. *Shippensburg University of Pennsylvania*. Shippensburg, PA.

AWARDS

NOAA Undergraduate Ernest F. Holling's Scholarship, 2018.
Harold U. Crouse Memorial Geoenvironmental Scholarship, 2017-2018.
Travel Scholarship to attend the EnergyPath Conference @ DeSales University, June 2016.

WORKING SOFTWARE SKILLS

Can use Adobe Illustrator and Photoshop CC2018 to illustrate and document 24 soil core logs.
Can operate ArcGIS Pro 2.4 (including Spatial Analyst and 3D Analyst extensions) and ArcGIS Online Story Maps:

- Damage assessment of Paradise CA, after the Camp Fire, which included visualizing burn severity, performing terrain analysis, estimating property damage, and documenting pre-fire demographics.
- Spatial point pattern analysis of 7,781 household lead samples in the City of Flint, MI, which included calculating descriptive statistics, mapping hot spots, and discerning statistical significance of the pattern.
- Participated in UAS aerial photography mission at U.S. Silica @ Mapleton, PA, which included GNSS mission planning, UAS flight planning, ground control point mapping, and online map service production..

Have many years of experience using *Microsoft Office 2018*, especially Word, PowerPoint, and Excel. Have a working knowledge of SPSS, Trimble GPS units, and Golden Software's surface mapping application.

OTHER ASSETS

Passed all background checks and obtained all safety clearances needed for working with minors in PA.
Certified in First Aid, CPR.
Have first-hand experience using Ground Penetrating Radar (GPR) equipment.
Can handle a variety of field and lab equipment used in soil, biology and chemistry lab analyses.
Familiar with water well installation, ground water monitoring, and core logging methods.

37+ SKILLS YOU HAD THE OPPORTUNITY TO LEARN DURING YOUR TIME IN GIS1, 2 AND 3

1. Build vector and raster datasets from scratch using first-hand observations and delimited text files.
2. Interpolate a surface from a spatial point sample.
3. Derive slope and aspect surfaces from a DEM.
4. Derive hillshade surfaces from a DEM and using the US Naval Observatory's "Sun or Moon Altitude/Azimuth tables."
5. Derive stream lines (vectors) from a conditioned DEM using the standard hydrologic workflow.
6. Obtain and prepare *TIGER®* shapefiles from the US Census Bureau.
7. Find, download and process data using:
    a. the US Census Bureau's *American Factfinder* application.
    b. the US Census Bureau's *OnTheMap* application.
    c. the USDA's *GeospatialDataGateway*
    d. Pennsylvania's *PASDA* clearinghouse.
    e. Esri's ArcGIS Online
8. Know and understand spatial referencing systems (geographic vs. State Plane vs. UTM).
9. Pull and read datasheets for National Geodetic Survey (NGS) marks.
10. Perform spatial analysis using vector- and raster-based workflows.
11. Apply definition queries to restrict data, build filtered layers, and avoid data duplication.
12. Georeference, orthorectify, and mosaic aerial photographs (if you took Remote Sensing).
13. Prepare, process, and classify LANDSAT/ (or SPOT) imagery (if you took RS and/or Image Processing).
14. Automate simple workflows in ERDAS Imagine (RS and/or Image Processing).
15. Automate simple workflows in ArcGIS using Model Builder.
16. Control GIS workflows by changing Geoprocessing and Environment settings.
17. Prepare, build data dictionaries for, and deploy Trimble GPS and GNSS receivers for fieldwork.
18. Use Trimble's GPS Pathfinder Office software and the National Geodetic Survey's (NGS) CORS data to post-process GNSS receiver data and apply differential corrections.
19. Filter differentially-corrected GNSS positions and features to meet Quality Assurance (QA) standards.
20. Quantify average GNSS accuracy by calculating RMSE values for a set of ground control points (QC).
21. Build an Address Locator over a centerline reference dataset.
22. Use Python string methods to parse long street address strings into standard address components (e.g., for US dual address ranges).
23. Geocode a table of street addresses in ArcGIS Desktop and QGIS (via MMQGIS plugin and Google Maps API).
24. Write Python scripts that can read and write data to a database (if you took CSC104).
25. Write Python scripts that can take user input, return output, and manage workflows using for and while loops and if-then statements (if you took CSC104).
26. Use map algebra and other modeling tools to perform multi-criteria modeling.
27. Build useful and effective maps (if you passed Cartography).
28. Calculate realistic viewshed models under different land use scenarios.
29. Can JOIN two tables with a 1:1 or 1:Many relationship, or RELATE two tables with a Many:1 relationship.
30. Enforce spatial relations among features and speed editing workflows using geodatabase topology.
31. Build choropleth maps using normalized attribute data.
32. Build large-format posters that adhere to National Park Service (NPS) design standards.
33. Can build and share web map applications via ArcGIS online.
34. Can plan an automated UAS flight with DroneDeploy.com
35. Develop interoperable map applications using uploaded data, Google Sheets, and AGOL.
36. Write professional reports with proofread prose, inline tables, figures, and references.
37. And whatever new knowledge and skills you've pushed yourself to develop during your capstone project.

This list does not include all the skills taught in other courses (Soils, Hydrology, Cartography, Field Techniques I or II, Remote Sensing, Image Processing, any of the field courses at Wallops Island or Curacao, field courses in Biology, etc.) Review your old labs and syllabi. Find the skills that you mastered and will be happy to discuss during an interview. Do not list any skills that you barely remember or that still give you lots of trouble. If you pretend to have those skills, then you run the risk of having to discuss them during an interview situation.