

## RESUME

## Resume, Meet Technology: How Your Story Gets Read by Machines

Detailing the steps applicant tracking systems take in order to decide whether to rubber-stamp your resume or chew it up and spit it out.

By Lisa Vaas



**Y**OU'VE PROBABLY HEARD THIS ADVICE for making your resume stand out: Sprinkle in plenty of juicy keywords so recruiters will pluck your document out of the pile.

But these days, the first review of your resume is more likely to be a software program, known as an applicant tracking system (ATS), than a human being interested in the quality of your paper stock and the power of your prose. While those qualities will be important in subsequent rounds, your first challenge will be to win over a very sophisticated machine that plays by its own complex rules.

In these competitive times, is a grab-bag of keywords really enough to ensure your resume rises out of that mysterious electronic swamp? If not, what else do you need to know about the processes that happen inside these ATSes — systems that are, in fact, fueled by sophisticated data-warehousing technologies — to stand the best chance of getting your resume in front of human eyeballs?

To answer this question, TheLadders talked to ATS vendors to find out what makes the technology tick, and to the recruiters who use these systems to separate resume wheat from chaff.



### Robot Wars! Beating Resume Software

By Matthew Rothenberg, Editor-in-Chief, TheLadders.com

**C**ONGRATULATIONS! You've done everything you can to make your resume stand out for the people who'll be deciding your future with the company of your dreams. You've selected a great font arranged in an eye-pleasing layout, and your 24-lb., ecru linen paper stock is the envy of your peers.

But guess what? Nowadays, none of those human touches will matter if you can't get past the computerized systems most HR departments use to screen the thousands of resumes they receive.

In this package of stories, veteran database reporter Lisa Vaas gets down to the nuts and bolts of applicant tracking systems (ATSes), the computer systems that receive your resume and, in many cases, decide whether to pass it along to a human recruiter. Lisa offers practical insights on which resumes are admitted entry by these electronic doormen and which are sent packing.

Read on to learn why a winning resume requires more than a trip to the stationery store. ■

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#### What did you think of this package?

Got a story of your own to tell? Have ideas for future coverage? Please write Editor-in-Chief Matthew Rothenberg at [matthewr@theladders.com](mailto:matthewr@theladders.com).

Here's what they had to say about how the systems work, what those systems can tell about you, what mistakes job applicants typically make when submitting their resume electronically and how to avoid unwittingly e-annoying the professionals who handle your resume.

**Keywords: Laundry lists don't cut it**

The advice to simply fill your resume with appropriate keywords may soon be outdated, experts say. Lisa Rowan, program director of HR, Learning and Talent Strategies for Framingham, Mass.-based analyst firm **IDC**, said there's a lot more to searching and matching than ever before.

"It's not your father's Oldsmobile, where if you put in 'Java' (as a keyword search, an ATS) would automatically apply you to Java jobs," she said.

Older ATS software relied on semantic search technology, that essentially counted keywords. Using a targeted keyword multiple times could be interpreted by the ATS as a positive resume for a certain position, said Matt Sigelman, CEO of **Burning Glass**, which makes resume-parsing software used to run contextualized searches in many of the leading ATS programs. (Rowan describes Burning Glass as state of the art for contextualized resume scanning, a software

technique that weighs keywords in the context of the whole resume.)

Contextualization goes much deeper and examines factors such as how dated is a given set of skills and where in the applicants career path did they acquire experience in a subject area, he said.

State-of-the-art ATS technology relies on contextualization, not on simple keyword matches, she said. "It goes much further, (with the technology looking) at descriptive materials, and (the ATS) parsing things out like a human would when reading it."

With the next wave of ATS technology coming soon to an HR department near you, a keyword such as "Java" had "better be framed by descriptive material that demonstrates experience and familiarity with the subject," Rowan said. This next-generation ATS software will examine the entire passage as if it were a human reading your resume: closely, and with an understanding of the subject matter.

Resume contextualization analyzes not just a keyword but its relation to elements, including relevant and related terms, the

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## Prepare to be Quizzed

**Traditionally used to screen out entry-level applicants for retailers, pre-hire assessment tests help shrinking HR departments weed through senior-level applicants.**

By Lisa Vaas

**P**RE-HIRE SCREENING tests are not new. They're a common presence in big-box stores, where job applicants sit at a little booth near the front door for a quick test to determine if they're suitable even to apply.

The technique is not typically associated with \$100K+ jobs — but that is changing, said analysts and

vendors who make the software behind the tests.

Employers are beginning to mandate applicants take an online pre-hire assessment test as they submit their resume, and it can determine whether your resume even makes it to Step One of the application process, said Lisa Rowan, program director of HR, Learning and Talent Strategies for the analyst firm IDC.

Pre-hire assessment tests examine your skill level and whether or not you would fit into the cultural and ethical environment of the employer. It measures your answers against what the employer has defined as the profile of an ideal employee in that position. The test is psychometric, testing personality and style as opposed to skills. It's also subjective, Rowan said; for a sales position it may reflect a particular sales style given employer

depth of the experience and how recent the experience was in a candidate's career path.

“Understanding that there’s a difference between somebody who took a class in Java eight years ago and somebody who’s been programming in Java every day for the last three years, (and understanding that) those are fundamentally different candidates,” is an example of how contextualized resume parsing works, Sigelman said.

Burning Glass’ resume-parsing tools seek out far more than keywords or even word strings. For example, instead of just recognizing an employer’s name on your resume, Burning Glass technology analyzes the job description to determine your role and what skills correspond to that role.

The keyword laundry list will no longer carry the day, but keywords remain important to the resume and must be included, Sigelman said. “Some candidates (for the Java engineering position example) might not write the word ‘Java’ in their resume, believe it or not,” he said. “I (examined) one job description looking for a geologist. (The candidate’s resume listed terms including) water modeling, etc. — all sorts of hydrology (-related terms) and things like that,

but never once mentioned the word ‘geology’ on the resume. The recruiter may have missed this person.”

Contextualized resume parsing works to overcome such glaring omissions by understanding the terminology that should surround a word such as “geology.” But don’t take a chance, Sigelman said. There are employers still using primitive semantic search ATSes, so don’t skip keywords entirely — just make sure they’re positioned in job descriptions that show you can walk the talk.

**Don’t choke the ATS**

Overly formatted resumes and resumes embedded with pictures, graphics and logos can be incompatible with most ATS software.

Recruiters and human-resources professionals call it “choking the system”: An applicant fills his resume with pictures, graphics and logos; headers and footers; and formats that make it difficult for the

software to read and sort the text into categories or cause it to crash altogether. It’s a sure way to ensure your resume never makes it to a recruiter, said Laura Michnya, the project manager of recruiting systems and process for **BAE Systems**. She recently implemented the **Hodes iQ** ATS at BAE and in the

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might prefer and assess how a candidate thinks and behaves to determine if he would be a good fit.

Rapid (and expensive) employee turnover rates motivated retailers’ embrace of pre-hire assessment tests, but its use has percolated upward into companies searching to fill higher-level sales positions, Rowan said.

Shrinking human-resources departments and the surge in applicants have fueled demand for an early screening process, said Chris Forman, chief development officer and president of AIRS, a recruitment process outsourcing company owned by The Right Thing. “They have fewer hiring man-

agers in place — they get let go in this kind of economy,” he said.

Kronos, a workforce management technology vendor, is one such technology, whose makers say it is now in high demand. In 2006 Kronos acquired Unicru, a pre-hire assessment software maker, and used the technology to build a pre-configured profile of sales associates. Most companies are still hiring revenue-driving sales positions, and the drain on human resources can take its toll.

**Passing the test**

There are no right or wrong answers on psychometric tests. For skills tests, job seekers can self-test using

tools on Monster, for example. Otherwise, make sure you answer pre-screening questions accurately if you want your resume to make it into an employer’s ATS.

“People think, ‘I’ve got the keywords, yadda, yadda, yadda.’ Well, the game starts with the screening questions,” Forman said. “If you answer it wrong, or answer it right and you’re not what they’re looking for, your resume will get knocked out.

“There’s this belief that the resume is what will put you at the top of the list. That’s the case in a number of companies, but more and more today, it’s those knockout questions that will tag you as qualified or unqualified.” ■

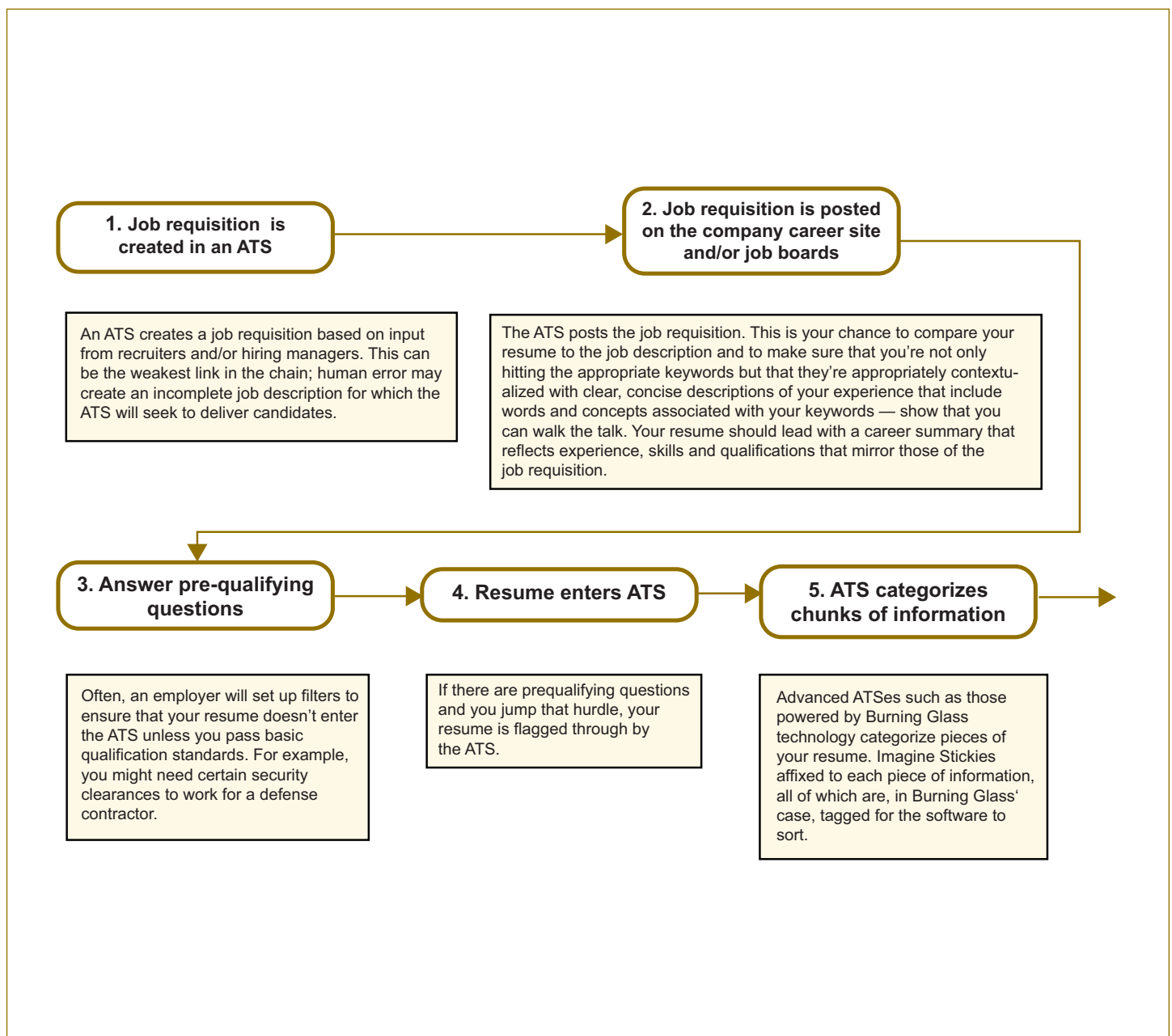
## Where Does Your Resume Go?

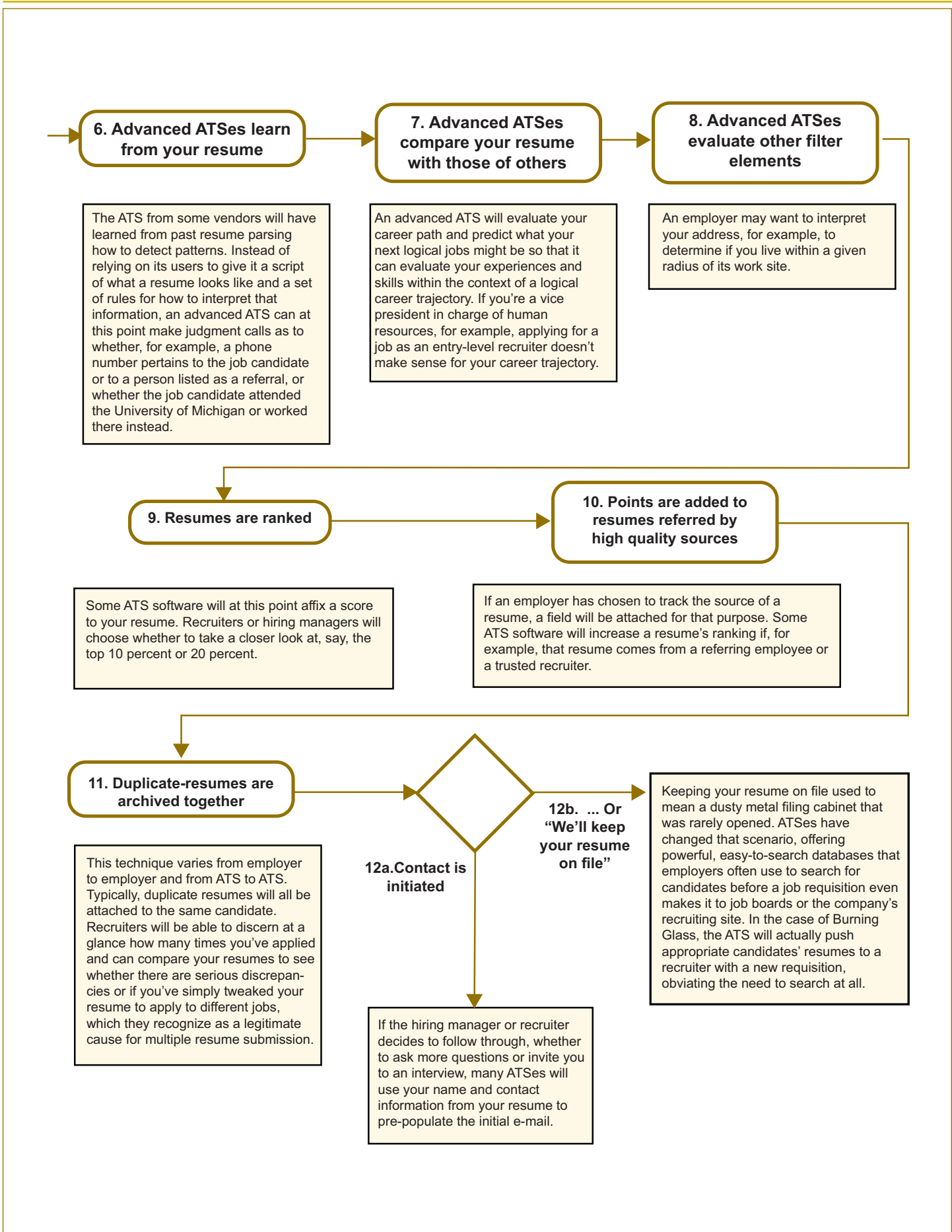
What happens to your resume after you hit “Submit”? Knowing the technical journey your resume takes can be crucial to impressing the recruiter and scoring an interview.

WHETHER YOU HAND-DELIVER YOUR RESUME to a friend who works at a company or hit “Submit” on an online application, your resume leaves human hands almost immediately. Your resume, whether a file or a paper document, enters an Applicant Tracking System — a software program that sits on a server at the hiring company where it sorts, categorizes and stores thousands of resumes and analyzes each before choosing which ones to forward back to the human

hands of a recruiter. Knowing how the ATS handles your file can help you better the odds that a human being will see your resume at the end of the line.

While each applicant tracking system works a little differently, this flowchart tracks the basic steps the software takes from the time a job is listed until your resume makes it onto the hiring manager’s desk or into storage for future opportunities. ■





► RESUME

past has worked with PeopleSoft and several homegrown ATS programs.

Some of the resumes she's seen will leave the Hodes iQ system gasping. "Those highly formatted resumes aren't always very compatible with standard ATS systems."

Hodes iQ is typical of ATSes, which use software to sift contact information and other chunks of data from uploaded resumes. This makes candidates' resume-uploading experience a little easier, as it pulls that data into a profile instead of forcing them to cut and paste.

But for such parsing software to work properly, a resume needs to be formatted simply, Michnya said. She sees many overly formatted resumes, especially with very senior-level candidates. "A lot of the time, they have so much experience, and they do like to get a little fancy," she said. "And a lot of the time, ATSes don't bring it over cleanly into our system."

In some cases, locating contact information in a footer will also cause an ATS to glitch, given that the systems aren't necessarily prepared to expect unusual placement. If that same contact information is included in the text, centered at the top of a resume but not in the header, it should come in fine, Michnya said. "As long as it's in the body, it will get parsed in fine. But a lot of times people put it just in the header or footer."

The result of a highly formatted resume being classified improperly: a garbled mess.

As with graphics, so too with cut-and-pasted text when uploading a resume to a Web site: It's often the cause of ATS choking. That's why Michnya has gone to pains to induce candidates to upload resumes, even switching the order of options on the company's careers site so that the "Upload" option comes first, in big, red text, with the "Cut and Paste" option moved to the bottom of the page.

"If you're on an ATS that gives you the option to either upload or cut and paste into a text box, it's better to upload," she said. "A lot of times that upload feature will parse information for you and will save it in (the optimal) format. It often can save in rich text. If it cuts and pastes, it only does so in plain text, and often people have (their resume) in Word or some-

thing that's not plain text," which will lead to ATS choking and a garbled resume, she said. "With my career site, I find so many candidates do the cut and paste option. They think it's faster. But it causes their resume to not look as nice. And hiring managers do notice that."

Michnya herself goes out of her way to contact job seekers, advising them to upload their resumes properly to avoid getting garbled. If, that is, candidates are qualified. "If not, I'll leave the (garbled) resume as is," she said. "And that could hurt the candidate in the future."

At BAE Systems a recruiter reviews every resume submitted by an applicant, but that isn't the norm, Michnya said. Not all recruiters will take the time that she and her colleagues spend helping applicants fix a garbled resume, even if they're well-qualified.

**How to e-annoy recruiters**

It might seem obvious that capitalization, punctuation and grammar matter.

But in the age of shorthand and text messages, the mistakes make their way into the resume, said David Freeman, a talent-management consultant at **Sonic Recruit** that is a division of Emeryville, Calif.-based Cytiva Software Inc.

"Especially for Gen Y or Gen X, it's common for people to type in all lowercase," he said. "They're so used to texting. They're not used to capitalizing

anything when texting."

It goes beyond proper etiquette, Freemans said. ATS software uses mail merge to populate fields for e-mails on the applicant to human resources and ultimately to the applicant for follow-up communication. Poor punctuation and capitalization can confuse the software about where to end and begin a field. It also forces the recruiter to enter fields manually, which might lead them to toss your resume.

Another e-annoyance is lag time in responding. Respond swiftly — within 24 hours — to a company that contacts you. Because of the volume of resumes now coming in to recruiters, they're not waiting long to hear back from a candidate, Freeman said.

It's also a good idea to keep an eye on your spam-folder settings. Filters are so sensitive today that they can recognize e-

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mail that's automatically generated — a category into which both spam and follow-up e-mail generated from ATSes fall.

To spam or not to spam

We all know better than to call a hiring manager again and again. But what about ping-pong the ATS robot accepting your resume again and again? Do duplicate resume submissions hurt your cause? Can it get you noticed?

It hurts your cause, said Jeremy Shapiro, senior vice president of Hodes iQ, the hosted ATS software used by BAE and others. If he could tell applicants one thing, he said, it would be this: "We can see you."

"Recruiters are aware of candidates that send in three different resumes, 10 different resumes," he said.

In fact, Shapiro has seen instances of extreme resume spamming, where candidates submit up to 70 to 100 different resumes, all of which are on record in the ATS. "The employer can see it," Shapiro said, and "this does not reflect positively upon (job seekers)."

### Applying to multiple positions in the same company

This is true even in large corporate environments where job seekers may be applying to several different subsidiaries, Shapiro said. Even if each division and subsidiary has its own ATS, those systems are usually all linked into one system. But applying for multiple jobs at the same employer is not spamming. Just be careful that each resume tells the same story, he said.

"There's nothing wrong with catering a resume to the system," Shapiro said. "Just know that we'll have visibility to it. At that point, if I'm the recruiter, I'll actively look for discrepancies. For example, in one resume, (a candidate) might claim five years of experience in something and seven years of experience in another resume. A red flag goes off immediately. You're asking to make mistakes with multiple versions of your resume."

"Recruiters can pick up on discrepancies," said BAE's Michnya. "To apply to one job and then send another resume for another, a lot of times (such resumes are) tweaked or tailored, and that's acceptable. But if information in the application seems to be contradictory, we could notice, and it would raise a red flag. If they say they're looking for \$50,000 on one and

\$80,000 on another, or if their educational information is different."

### Consider your resume's entry point to gain an advantage

It's common to ask if you have a better chance at a job if an employee submits your resume. The answer is yes, IDC's Rowan said — not only because it influences human screeners but how ATS software follows your resume.

Depending on a given ATS vendor's feature set and how an employer has chosen to set it up, the ATS may track the source of your resume — how it was submitted — and can be designed to attach different values to different sources.

An ATS set up to track how resumes come into the system will typically have a source note attached to a resume.

Resumes involved in employee referrals tend to flow into an ATS internally, passed along as a forwarded attachment from the candidate to the referring employee to the recruiter. Even in these circumstances, however, the employer is likely to require that a candidate also fill out an online application. Most ATSes are sophisticated enough to query how a candidate found out about a job requisition and to discern that a resume came from TheLadders or another job board or whether the candidate is applying at

the suggestion of an employee.

Employee referrals are one example of applicant sourcing that most employers rank very highly, Rowan noted. If an ATS has ranked Candidate A as being 80 percent qualified for a given job requisition, a source note that flags that candidate as also being an employee referral will raise that candidate's ranking.

"If I'm an employee, I'm not going to recommend poor candidates, generally. So they're thought to be higher quality," Rowan said.

Other examples are Web sites, job boards and recruiters. Was the candidate's resume found on a niche job board, for example, that features the resumes of minorities? Some employers, such as one requesting federal contract work, might program the ATS to assign a higher value to such a resume. Job boards and recruiters with a particularly good reputation

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with an employer might also earn a few extra points for a submitted resume.

The lesson is simple: If you are in fact being referred by an employee, make sure the ATS knows it — because it's smart enough to care.

### The bottom line

Insights into ATS technology can help you avoid missing keywords and choking the software, but there is no way to game the systems. Best practice simply ensures you won't be disqualified for a technical error. But resumes still touch human hands and must be optimized for the reader as well, said Shapiro of Hodes iQ.

The human element still carries the day, particularly when it comes to the importance of letting peers review

your resume before it ever reaches an ATS, he said.

“A great person may not have a great resume,” Shapiro said. “Circulate your resume to peers, and to friends, before you send it off. Make sure little mistakes are gone. And make sure it's pleasant to look through. While machines store and help search it, humans have still got to look at it.”

At the end of the day, Shapiro said, your resume is the first writing sample an employer ever sees. Keeping it simple, concise and clear will not only help it pass through the ATS gauntlet — it will provide your prospective employer its first chance to evaluate what you're made of, regardless of whether it's being read by parsing or by human eyes. ■

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### ABOUT THE AUTHOR

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### Career Advice from TheLadders

- Resume Example: Consultant Targets In-House Work
- Resume-Writing Strategies from a Career Coach's Tool Kit
- Ethics and Resume Writing
- Certified Resume Writer Consolidates a 30-Year Career

