

How to Optimize Résumés With AI Tools

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Abstract

Artificial intelligence (AI) has become increasingly pervasive across multiple domains: Industry, tourism, healthcare, and education among others. Recruitment is not an exception. In fact, Team IO (2023) states, “With AI becoming increasingly prevalent, it’s essential for both job seekers and employers to harness its potential to achieve better results in the hiring process.” In our AI-driven world, résumés are initially reviewed by AI-powered Applicant Tracking Systems (ATS), and only résumés that pass the initial AI screening in terms of keywords, formatting, and relevance to the job description are then considered by human recruiters. As a result, the most qualified candidates for the jobs cannot be considered unless their résumés pass the initial AI screening. Hence, it becomes essential to help undergraduate students, particularly English as a Foreign Language (EFL) learners, prepare their résumés to meet the linguistic and technological criteria. To this end, the researcher implemented an instructional intervention in her Professional English Communication Course. In more detail, she integrated AI tools, specifically ChatGPT 3.5 and Careerflow.ai, to train her fifty EFL undergraduates in optimizing their résumés for ATS initial screening, meet specific job descriptions, and hence increase their employability in AI-mediated recruitment contexts. The purpose of this paper is to share the instructional steps the researcher has followed, the outcomes of this intervention, and qualitative feedback from students. In this paper, the researcher will also discuss the limitations of these AI tools in résumé writing and emphasize the importance of human feedback and personalization in creating résumés.

Keywords: Applicant Tracking Systems, Careerflow.ai, ChatGPT, professional English, résumé optimization

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Introduction

Artificial intelligence (AI) has been transforming how human beings live, work, learn, and even get hired. In fact, AI has been playing a decisive role in the hiring process as résumés are initially screened by AI- powered Applicant Systems (ATS) before they are sent to human recruiters. As a result, job seekers must ensure that their résumés meet the ATS criteria in terms of keywords, formatting, and relevance to the job description to pass the initial AI screening and reach human recruiters.

Hence, higher education institutions are integrating AI résumé tools to help their students develop competitive résumés that transition them from the applicant to the interview pool (Abdelwahab et al., 2022). According to the National Association of Colleges and Employers, AI tools should be used appropriately, and university educators have developed guides for such use (Lang & Catrino, 2024). In addition, Ponce (2024) maintains that educators should continue teaching résumé writing while also helping their students develop critical AI literacies because “this dual approach ensures that students can effectively utilize AI tools while maintaining control over their résumés” (p. 21).

However, Lookadoo and Moore (2024) found that there is a mismatch between what is taught in the textbooks and what is needed to be taught to align with the real business world and AI-mediated hiring process. Hence, they recommended that students and instructors “need to know how ubiquitous AI is in the job search process... [and] students need a résumé that works for both an AI and a human” (Lookadoo & Moore, 2024, p. 16).

Thus, it becomes necessary to help undergraduate students prepare their résumés to meet these criteria, especially when “Using AI to polish résumés can significantly improve job seekers’ chances of getting hired, receiving more job offers, and earning higher wages” (Team IO, 2023, n.p). That’s why the author incorporated AI tools, namely ChatGPT 3.5 and Careerflow.ai, in her Professional English Communication Course to train her EFL students to use these AI tools to optimize their résumés to pass ATS initial screening, to meet specific job descriptions, and to increase their chances of being accepted for the job they are applying for.

Context

The intervention, which is qualitative and classroom-based, takes place in a Professional English Communication (PEC) Course at a relatively small private English-speaking university in Lebanon, which has three colleges: The College of Business, the College of Engineering, and the College of Arts and Sciences. Almost all their programs are accredited.

PEC is a required course for all students. The main objective of this course is to prepare students for the workplace, and as such, students learn about workplace communication, including résumé writing.

Before introducing the instructional procedure, the author did the following with her students. First, the participants were taught about AI, what it can and cannot do. Through their discussions, the researcher and the participants concluded that ChatGPT is not intelligent, unlike what the term artificial intelligence implies; it is more like a “stochastic parrot” that lacks actual knowledge but analyzes data for “identifiable patterns to generate responses” (Bender et al., 2021 as cited in Kostka & Tomcelli, 2023, para.2). They also concluded that ChatGPT is an imperfect tool whose output and ideas need to be evaluated and deepened by

themselves, which is in line with Koehler (2023). Second, they were also instructed not to use ChatGPT or any AI tool to replace their work but to enhance their learning, and the participants were requested to follow an AI policy to ensure integrity while they maintain their identity and voice, arouse their critical thinking, and help them co-construct knowledge with the AI tool and the instructor.

The AI policy states the following:

To promote transparency and integrity, you must disclose any use of ChatGPT or similar AI tools. You are allowed to receive feedback on optimizing your résumés. However, you mustn't submit AI-generated résumés as your final work. You must log each use of AI (prompt, output summary, decision to adopt or reject in your learning log) and cite AI tool according to APA guidelines, such as ChatGPT (2025, February 15). Use the following link to learn how to cite it: <https://apastyle.apa.org/blog/how-to-cite-chatgpt>. Any violations of this policy will be treated as breaches of academic integrity, following the university policy.

Participants

The participants were fifty EFL undergraduates from different majors (Business, Engineering, Graphic Design, and Computer Science). The majority were seniors and juniors, with a few sophomores. They were females and males. These participants were enrolled in two sections of PEC taught by the author during the spring semester. They were informed about the intervention and its rationale at the beginning of the semester, and almost all participants, if not all, were interested in following it.

All of them had used AI tools as follows¹: ChatGPT (91.1%), Copilot (6.7%), Grammarly (2.2%) for the following purposes: To brainstorm ideas (82%), find sources (68.9%), summarize articles (62.2%), edit drafts (51%), and explain concepts (46.9%). More than half (51.1%) were concerned about ethics when using AI, while fewer (48.9%) were not concerned.

Intervention: Step-by-Step Procedure

The procedure consisted of eight steps, which are the following:

1. The participants were taught about what a résumé is and the importance of developing an attractive and persuasive résumé to ensure to be selected.
2. They were given instructions about how to create their résumés and what elements to include in their résumés (See below). Sample résumés were also shared with the participants (see Appendix A). The participants were also informed about AI-powered Tracking System (ATS) and why they should use appropriate keywords and format. Most importantly, they were asked to customize their résumés to the job description.
3. The participants brainstormed about their expertise (core competencies), skills, experiences, achievements, and other information (such as languages) to include in their résumés. Identifying their expertise is the most difficult part for the participants because at this stage, not all of them are aware of their strengths and competencies.
4. The participants individually developed their résumés following what they were taught in class.

¹ Data were collected through online survey distributed before the intervention.

5. The participants uploaded their résumés on AI tools to get feedback using specific prompts. The participants had the freedom to choose the AI tool (ChatGPT or Careerflow.ai) to get feedback that was related to suggested improvements, suggested KPI's or percentages, editing, and formatting. If students had a specific job they intended to apply for, they asked the AI tool to match their résumés to the job description.
6. The participants critically evaluated the AI output and reported what they needed to adopt and why in a learning log.
7. The participants discussed feedback with the instructor.
8. The participants submitted their résumés for evaluation.

Instructions on How to Write a Résumé

The participants were taught about how to develop their résumés and what elements they should include, as follows:

1. Their names in full and the positions the participants are applying for (such as *Aspiring Mechanical Engineer*). Their address (only city and country), email address, and LinkedIn address as a hyperlink, updated with a professional photo and an attractive headline.
2. A professional summary that provides a quick idea about who the candidates are, what they offer, and what their career direction is. According to Columbia University Center for Career Education, the summary should have the following key characteristics: Concise (2–5 lines or bullet phrases), tailored to the job /role, highlighting keywords and experiences relevant to what the employer is seeking, presented in strong /active language (avoiding I-statements), action-oriented (avoiding narratives), and specific as well as quantifiable if possible.
(<https://www.careereducation.columbia.edu/resources/how-write-resume-profile-or-summary-statement>)
3. Areas of expertise or core competencies that the applicants have.
4. Professional experience that includes all the actual roles the participants held, the university projects, the internships, or freelance. This should also be presented in terms of strong action verbs and achievements in terms of measurable results or KPI's to be ATS-friendly.
5. Education including the date of joining the university, the major, the degree, and the academic status. Relevant coursework is added if it matches the job applied for.
6. Additional skills (both technical and soft) that were not mentioned in the areas of expertise or core competencies.
7. Languages that the participants speak and their proficiency level in each language.

Notes for ATS Compatibility

To help them ensure that their résumés are ATS-friendly, they were instructed to format their résumés as follows:

- To use standard fonts (e.g., Arial, Calibri, Times New Roman).
- To save as .docx or PDF (check job post if PDF is accepted).
- To avoid tables, graphics, text boxes, and columns.
- To use plain text and consistent formatting.
- To customize the skills and experience section using keywords from the job description.
- To always include section headings like “Professional Summary,” “Education,” and “Skills” to improve parsing accuracy.

Optimize Résumé With ChatGPT

The quality of the AI output depends on the quality of the prompt. For example, Ponce (2024), who explored how confidence in the prompts affects the résumé-generated content by AI tools, found that “the confidence level in the prompts ... impacted the personalization and relevance of generated résumés” (p. 21). Hence, the participants were asked to use the following confident prompt generated by the Prompt Maker to get personalized and relevant outputs on their résumés: “Analyze my résumé and provide tailored improvements to align it with a [job title] role at [company]. Highlight skills, achievements, and keywords from the job description. Ensure it passes ATS screening and appeals to hiring managers” (OpenAI, personal communication, March 15, 2025).

Optimizing Résumé With Careerflow.ai

Because all the participants had never used Careerflow.ai before, they were given detailed information about how to access and use this tool. They were asked to go to the website at www.careflow.ai and create an account. Though creating one's résumé with AI is an option with Careerflow.ai, the participants were instructed to create their own résumés first (as presented earlier) and then upload them to this website for feedback. They were also informed that if they had a specific job description, they could paste it there too and ask the AI to optimize their résumés accordingly. Instantly, the AI would grade the résumés, indicate to what extent they matched the description, and suggest improvements to be carried out by the job seekers. However, the subscribed version of this tool can automatically optimize the résumés.

Because the author was interested in developing students' critical thinking and decision-making, she required the students to use the free version and required them to critically evaluate the AI output, reflect on it, and decide on what to adopt or reject in a personal log.

ChatGPT and Careerflow Output

Sample suggestions by ChatGPT and Careerflow.ai, together with a sample of student logs, are provided in Appendix B.

Participants' Feedback

At the end of the course, the researcher sought the participants' feedback through two focus group interviews. Twelve participants volunteered to take part in these focus groups, the first of which consisted of seven participants, and the other of five participants. Most of the participants had a positive attitude towards using AI tools in optimizing their résumés. They found AI tools helpful in several ways: “improved organization,” “better formatting,” “language refinement,” “suggested keywords and KPI's to match the job,” and “making it [the résumé] more concise.” One participant emphasized the importance of using AI tools as a guide and not as a replacement for them. Another participant stated that “It really helped me improve my résumé. The percentage [grade given by careerflow.ai] was 38% and after editing, it reached 76%.” However, one participant had a different attitude towards this experience; he stated that “The AI tool messed up all the points ... and the suggested revisions were not logical to me,” and added that he preferred to get feedback “from a human.” These findings were in line with the literature. LeFebvre and LeFebvre (2025) found that 70.5% of undergraduate students in a business communication course at a university in the US had positive perceptions of AI tools in improving their résumés, whereas 29.5% had a different opinion.

Conclusion

How AI tools were employed helped students improve their résumés in two main ways: Tactically and strategically. The AI tools critiqued the content of the résumés and suggested revisions related to language refinement, formatting, and word choice, such as the use of strong action verbs. In addition, the AI tools suggested adding skills to the résumés to match the job descriptions and highlighting achievements and strengths, as well as adding necessary details that recruiters admire.

The benefits of this intervention were not only limited to improved résumés and hence improved grades, but they were also felt at different levels: (1) students' enjoying the experience and their finding it helpful, (2) improved students' self-analytical and reflective skills, (3) students' intention to transfer these skills for future professional work, and (4) sharing this strategy with their acquaintances, who were job-hunting.

Limitations

The researcher acknowledges several limitations that may affect the transferability of this instructional intervention. Some limitations are derived from the AI tools, whereas others are related to the scope of this intervention. First, ChatGPT 3.5 and Careerflow.ai may generate biased, generic, impersonal responses based on the quality of the prompts, coupled with any possible linguistic misinterpretation in the EFL context. Second, the intervention was conducted with a relatively small sample of fifty EFL participants at a private Lebanese university. Hence, the outcome may not be the same when applied in other EFL contexts. Third, the focus group data were based on voluntary participants, whose opinions may not be representative of other participants. Fourth, though the participants had to document their AI use to ensure transparency and integrity, the possibility of unintentional plagiarism cannot be eliminated.

Despite these limitations, this qualitative classroom-based intervention provides important preliminary evidence of how AI tools can optimize students' résumés while enhancing students' self-reflective and analytical skills.

Recommendations

The author recommends using AI tools to complement, not to replace, the instructors' teaching and feedback. This resonates with Drewey, Woodside, and Eppel (2022), who found that AI feedback cannot match human feedback that helps students' critical self-reflection about their strengths and interests. The author also warns against over-relying on AI-driven résumés, which is in line with LeFebrve and LeFebrve (2025), who state that AI résumé technology should be used only to enhance résumé development skills, and students should be warned against blindly trusting algorithmic feedback.

As AI continues to evolve, there will be a necessity to conduct more research that explores the advancement in AI tools and their impact on résumé writing. Further research with a bigger sample, as well as longitudinal research that tracks the extent to which optimized résumés with AI tools could ensure the job seekers' move from the applicant to the interview pool, is needed.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

As the paper is about using AI to optimize résumés, it is expected to share some of the AI output with the readers as examples. That said, the author declares that the shared sample résumé, the AI output, and the prompt are AI-generated, which are all cited. Apart from these uses, the author declares that the paper is original and written by the author herself.

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Appendices

Appendix A

[FIRST NAME LAST NAME]
[Phone Number] | [Professional Email] | [LinkedIn Profile] | [Portfolio Link – if applicable]
Location: City, Lebanon |
Prospective Mechatronic Engineer

Professional Summary

Motivated and detail-oriented undergraduate student pursuing a Bachelor of Science in Mechatronics Engineering at Rafik Hariri University. Proven ability to contribute to real-world projects through academic coursework, volunteer work, and/or freelance experience. Skilled in CAD Design (SolidWorks, AutoCAD), Microcontroller Programming (Arduino, Raspberry Pi), 3D Printing and Prototyping, with a strong commitment to learning and professional development. Eager to apply technical skills and soft competencies in a challenging internship or entry-level role.

Areas of Expertise

- CAD Design (SolidWorks, AutoCAD)
- Microcontroller Programming (Arduino, Raspberry Pi)
- 3D Printing and Prototyping
- Robotics and Automation Systems
- Sensor Integration
- MATLAB
- C/C++

Professional Experience

Volunteer Robotics Assistant

IEEE Student Branch – City, Lebanon

Jan 2024 – May 2024

- Assembled and tested components for a line-following robot used in a university-level competition.
- Programmed Arduino-based control system using C++ to improve speed accuracy by 20%.
- Collaborated with a team of 5 students to integrate sensors and motor control.

Education

Bachelor of Science in Mechatronics Engineering

Name of University – City, Lebanon

Expected Graduation: June 2026

- Relevant Coursework: Automation & Control Systems, Electronics, Machine Design

Technical and Soft Skills

Technical Tools & Platforms

- SolidWorks, MATLAB, Arduino IDE, Python

Soft Skills

- Team Collaboration
- Time Management
- Critical Thinking
- Communication
- Problem Solving
- Analytical Skills

Languages

- Arabic: Native
- English: Fluent
- French: Intermediate (Optional)

(OpenAI, personal communication, March 10, 2025).

Appendix B

ChatGPT and CareerFlow Output

Revised Version: Highlights and Fixes

Header

Make it ATS-friendly and add a GitHub or portfolio link.

Participant Name

Prospective Data Scientist | Beirut, Lebanon

LinkedIn: [Insert URL] | GitHub: [Insert URL] | Email: XXX@students.yyy.edu.lb

Professional Summary (*Use keywords + value proposition*)

Analytical and motivated Computer Science student passionate about leveraging data to drive impactful decisions. Experienced in SQL, machine learning, Python and related libraries (pandas, NumPy, scikit-learn) to extract insights and build predictive models. Skilled in data wrangling, visualization, and model development. Proven ability to support instructional teams and deliver tech-focused workshops. Eager to apply statistical and programming expertise to real-world problems at a global scale like Google.

Skills (*Group and align with DS role*)

Programming: Python, SQL, C++, HTML, CSS, JavaScript, PHP

Data Science: Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, JSON, Web Scraping, Jupyter

Web: Laravel, Bootstrap, Tailwind, jQuery, Ajax

Soft Skills: Problem-solving, Leadership, Communication, Adaptability, Critical Thinking

Languages: Arabic (Native), English (Fluent), Italian (Beginner).

(OpenAI, personal communication, March 27, 2025).

Sample Student Log

What I Changed and Why²

- Added my GitHub account to the contact information because as a computer scientist I have my projects there, that way the company can directly check my skills and work.
- Mentioning Python libraries related to data science that I'm experienced in would boost my cv and ensure that it passes the ATS screening
- Will be adding the probability and statistics course to the relevant course work because it is an important mathematical skill related to data science
- Changed the way I wrote the professional experience because I felt that the one ChatGPT generated is neater
- Will divide the technical skills based on what ChatGPT did because it's easier to read and understand + it highlights data science related skills
- Rephrased the way I wrote my extracurricular activities in order to make them verb phrases

Careerflow.ai Output

- Personal information in a résumé is important because it provides essential details about you as a candidate, helping recruiters to identify, contact, and evaluate you for a potential job opportunity. Here is what you can include in your résumé's personal information:
- Including your LinkedIn URL on your resume is a good idea. It makes you look more professional and gives extra info about your work.
- Adding links to your portfolio like your personal website or Github in your resume is important because it shows a glimpse of your work and proves your skills. These links let recruiters see examples of your projects, skills, and accomplishments. By sharing a link to your portfolio, you help recruiters check your abilities and understand how you can contribute to their team.
- Including a target title in your résumé is a good idea because it helps recruiters understand what job you want. It also makes your résumé more likely to be noticed by the Applicant Tracking System (ATS) that many companies use to find résumés. The target title is like a short headline that tells recruiters the kind of job you're looking for, making it easier for them to see if you're a good fit.

(Careerflow.ai generated résumé feedback)

² This was kept as it is to maintain student's voice.