

Resume Tips

(Followed By Examples)

Resumes are often seen as daunting or difficult to create, especially for STEM majors that might be earlier on in their college careers, causing them to feel less qualified. However, this should not be the case because STEM majors actually have more freedom and variability when it comes to what they can include on their resumes compared to many other majors. As a STEM major, you can include almost anything relevant to the job/ position you are applying for, including technical skills, research positions and publications, shadowing, projects, certifications and much more!

CONTACT INFORMATION

Purpose: All resumes should include this section so that the employer/organization that you are applying for can reach you in order to move forward in the hiring process.

Tips and Tricks:

- This information is found at the top of a resume, sometimes even in the header
- Your name should be the most noticeable part of this section (this is the one instance where the font size can be above 12pt, however it generally shouldn't exceed 20pt)
- Including one mailing address is adequate, however if you choose to include two (which is still completely fine) then they should be separated and distinct, with some indication of preference in case the employer/organization wants to send you something through the postal system
- You should include your email address and primary phone number for easier communication
- Any links to professional networking or social media sites (i.e. LinkedIn or Github) can be included in this section but are not necessary

Examples:

Nancy Hoover

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EDUCATION SECTION

Purpose: This is another common section that is very important, especially for STEM majors, since they are often applying to more technical jobs. The purpose of this section is generally to convey what kind of relevant educational training or background a candidate has. This section should definitely include information on any and all colleges or graduate programs you have been through, as well as what kind of degree (both the major and type of degree: B.A., B.S., PhD., etc.) you graduated (or will graduate) with. If you are pursuing a minor, this is the section where it should be included. This section can also include a list of relevant coursework, however, this can also become its own section, which will be discussed next.

Tips and Tricks:

- A general rule for all resumes is if you are still a student, this should be conveyed within this section (this is often done by including "Expected June 20xx" before one's graduation date)
- Including one's GPA in this section is common, however, if your cumulative GPA is below a 3.0 then you should include your major GPA if this is higher; if this is the case then you must specify that the GPA included is your major GPA, and not your cumulative GPA. If both of your

GPA's are below a 3.0 then you may want to consider omitting this information unless it is specifically requested.

- This is a great section to include any relevant coursework you have completed that is related for the position you are applying for. When coursework is included in this section (as opposed to its own section, which will be considered in the next), it is often done so in a list-type format where the title of each relevant course (i.e. Program and Data Representation) are listed sequentially. However, this list should not exceed two lines of your resume because this can often cause spacing issues, as well as over-dilute your resume with information (if you are listing more than two lines of classes, odds are some of them are not relevant and should be omitted to more effectively highlight/display the courses that actually relate to the position).
- It is totally acceptable to include any relevant Honors, Scholarships, Nominations, etc., as a subsection within this section, however you are also able to make this information its own section.

Examples:

California Institute of Technology, Expected June 20xx

B.S. Systems Engineering, GPA: 3.50

B.A. Economics, GPA: 3.33

Cumulative GPA: 3.44

Relevant Coursework: Intro to Econometrics, Intermediate Microeconomics, Intermediate Macroeconomics, Antitrust Policy, Morphology, Linguistic Field Methods

or

Relevant Coursework: Intro to Econometrics, Intermediate Microeconomics, Intermediate Macroeconomics, Antitrust Policy, Morphology

TECHNICAL SKILLS AND CERTIFICATIONS

Purpose: This is another section that tends to be more important for STEM resumes compared to other kinds of resumes. This section is meant to explicitly list out any technical skills or certifications that might be relevant to the position you are applying for.

Tips and Tricks:

- This section tends to be located more towards the top of a STEM resume (generally right after the Education Section), or at the very bottom of the resume. This tends to be the case because of the importance and easy readability of this section, allowing employers to distinguish the candidates that possess the desired skills they are looking for, thus this section is highly relevant and characteristic of the rest of the resume. Therefore, it should be located easily within one's resume.
- Differentiation between different kinds of skills is not necessary for resumes with a smaller number of skills, however as you grow and develop your resume, it might be useful to distinguish between different realms of skills (i.e. Web Development Languages vs Programming Languages vs Database Languages, etc.)

- This section might include some information that also appears in other sections of your resume, however this section is solely a listing of the skills, it generally does not include content bullets or background information on how you acquired these skills
- You will need to convey your capacity/ability with each skill in order to give the employer a better idea of you as a candidate, and to prevent you from appearing over-qualified and then being subsequently caught off-guard in an interview when asked a question your resume implied you should be able to solve, but actually cannot. Thus, conveying comfort/capability levels with your skills in this section is very important. Some common ways this is often expressed is through using language like "Mastery in/Expert In" to convey a high-level of mastery of a skill (although this is more rare for undergraduate students); "Proficient In/Adept In" to convey a level of skill competency such that you are able to use and apply the skill for real-world applications, or you are familiar enough with the skill that you are able to figure out how to appropriately apply the skill for new problems (this tends to be the most common comfort level for college students); finally, "Experience with/Exposure To" conveys a beginner-comfort level, but also communicates to the employer that this skill is not completely new to you, and that you are eager to develop it.

Examples:

Proficient in: Minitab, LabVIEW, SolidWorks, @RISK Risk Analysis, Arena Simulation, Java, MySQL, Microsoft Office, Excel VBA

Experience with: PHP, HTML, Android, MathCad, R, STATA, AWS

RELEVANT COURSEWORK

Purpose: This can be one of the most important sections in a resume for STEM students because jobs and internships in STEM fields often require skills and qualifications (i.e. coding/ programming languages, research procedures and protocols, medical processes, etc.) that students have only been exposed to in the classroom, yet are still required to possess in order to even get hired for these internship/entry-level jobs. Thus, this section can be essential to a good quality STEM resume because it helps to bridge the perceived knowledge/skill gap of students to real-world positions by highlighting how the student has actually begun to develop the necessary skills for the position through their schooling, and that an employment opportunity actually gives the student the chance to use the skills they learned for real-world applications, benefiting the employer while simultaneously developing the student professionally.

Tips and Tricks:

- This section is almost the opposite of the list format for relevant coursework; instead, this section delves deep into a select few courses that offer the most relevant experience/exposure to the most applicable skills.
- You should include the name of the Course and the time-frame you took the course (although this part is optional).
- The content bullets of each Course should highlight the technical skills from the course, any projects or labs that required specialized processes or procedures (i.e. design cycle, evaluation reviews, statistical analysis, user analysis, etc.), and any use of products that are commonly used within the relevant fields (i.e. specific/unique research instruments, Amazon Web Services, data visualization tools, etc.). Additionally, you can highlight any qualifications

or knowledge that you developed in the course which you are able to apply to real-world problems and applications.

- The content bullets for this section can be created and formatted in the same way as any other content bullet - start with a strong and descriptive action verb, describe your task and how you accomplished it, and finally end with the results of your efforts (numbers are your best friend).
- This section also helps to convey a candidate's interest in a field or area of study by providing background dedication to learning the subject.
- Do not be afraid to explicitly state the technical or transferable skills gained from your coursework, THAT IS THE PURPOSE OF THIS SECTION!

Examples:

Systems Evaluation - SYS 3034

- Delivered weekly cases and presentations designed to replicate real-world case work
- Conducted statistical analysis of MLB baseball teams and players in order to develop drafting methods to improve team success, placed 1st out of 10 teams in simulated draft
- Created consultation for APT case. Analyzed the sensitivity of a proposed price increase across ~400 stores, using Microsoft Excel to calculate elasticity of demand and find optimal price, and Minitab to verify statistical significance of results

Data and Information Engineering – SYS 2202

- Utilized Amazon Web Services and MySQL to program an online database to predict outcomes of NFL matchups based on results from the prior season

RESEARCH EXPERIENCE

Purpose: For many STEM students, their first actual experience within a field of study is through conducting research - this section is meant to convey the skills and experiences you gained from this research. Research is a great way to gain practical experience and transferable skills, so this section should be formatted and structured in such a way to highlight the student's acquisition of relevant skills/experience by detailing the actions taken during the research, as well as any results that came from this research.

Tips and Tricks:

- The content bullets should include information on any partnership with faculty or professionals for the specific research, as well as information on the research experiments, poster presentations, grant writing support, and research methodologies.
- Often students that work with faculty for research stand the chance of having their name on the final publication; this can be included in this section with the rest of the research content, although it can also be put in its own section. You must indicate if this research has already been published, or if it is in the process of doing so (if this is the case, say something along those lines, that the research is in the process of publication), however, publications should not be the goal of research, since often the skills, experiences, and connections gained from conducting research are more than sufficient to develop a quality STEM resume.

Examples:

Caltech, Pasadena, CA

Research Assistant, Department of Biology

May 2019 - August 2019

- Created single amino acid mutations in an enzyme involved in sulfur metabolism, sulfite reductase
- Cleaned and organized lab equipment
- Ordered and maintained office and lab supplies

RELEVANT (TECHNICAL/ PROFESSIONAL) EXPERIENCE

Purpose: The purpose of this section is fairly straightforward - it is meant to highlight experiences and skills in order to provide you with competitive advantage needed over other applicants. The creation and formatting of this section is pretty much the same for STEM majors as for other majors. All different kinds of jobs, experiences, skills, trainings, etc., can be put into this section as long as they are relevant to the position you are applying to. For STEM majors specifically, this can often include previous jobs/internships, leadership positions for clubs and organizations, independent projects, companies you founded, and much more.

Tips and Tricks:

- The content of your experiences within this section should be highly focused to the position you are applying for, even if you gained additional technical skills from a previous job that you think valuable but irrelevant should be omitted. However, you can include these other skills gained from an experience when applying for a job that relates to them, often allowing experiences within this section to be described differently when applying to different positions.

OTHER

Projects/ Hackathons/ Presentations:

- Sometimes the best way to present your skills, or perhaps your only exposure to an experience, has been because of project (either academic or personal) or hackathon. These kind of experiences can either have their own section (which is created and formatted similar to content for research experience), or be placed within your "Relevant Experience" section.

Clinical/ Shadowing Experience:

- Clinical/ Shadowing Experience can be treated in the same manner as described above for Projects/ Hackathons/ Presentation

Adapted from the University of Virginia

HUONG (LUCY) YANG

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EDUCATION

California Institute of Technology (Caltech)

Bachelor of Science, Engineering Science, emphasis in Mechanics, June 2019

GPA: 3.6

Relevant Coursework: Engineering Design Clinic, Simulation and Modeling, Signals and Systems, Technological Risk Assessment, Statistics for Engineers, Mechanical Vibrations, Failure Analysis, Introduction to Hydrosystems Engineering

SKILLS

Technical: MATLAB, Minitab, Neural Networks, ARIMA modeling, familiar with C programming and AutoCAD

Languages: Fluent Spanish; Conversational Portuguese

EXPERIENCE

Engineering Design Clinic SURF, Caltech (Sept 2018 - May 2019)

Dabney Lab, Pasadena, CA

- Researched current Lean Design practices in engineering industries
- Worked with 3 Design Clinic team members to analyze design processes, identify inefficiencies and recommended improvements based on Lean Design principles
- Co-managed \$5,000 project budget, ensured all project deliverables were completed on-time
- Collaborated extensively with Kollmorgen employees and management
- Developed and presented project deliverables and final recommendations to project sponsor staff

Caltech Baxter Engineering Program – Research Intern (June 2017 - May 2018)

- Developed workshop for middle and high school teachers to teach about engineering design and ways to apply in engineering principles in classrooms
- Developed engineering activities for inclusion in novel to introduce engineering concepts to students grades 7-12
- Co-authored ASEE conference paper and poster

Engineering Laboratory of Dr. Jack Jones, Caltech – Teaching Assistant (Sept 2016 - May 2017)

- Prepared materials for professor and students for use in lab sessions
- Assisted professor in answering questions and resolving issues during the laboratory

Curriculum Planning Committee, Caltech – Student Member (Sept 2015 - May 2016)

- Organized logistics for and participated in meetings with faculty
- Served as liaison between committee and student body

ACTIVITIES AND LEADERSHIP

Society of Women Engineers (SWE) – Caltech Student Chapter (2015 - present) Co-President (2018 - 2019);
Vice President & Technology Director (2017 - 2018)

- Served as liaison between Smith College faculty and administrators and SWE chapter members
- Applied for grant and Student Government Association funding
- Planned engineering outreach events

Engineering World Health – Caltech Student Chapter (2017 - 2018) Vice President

- Aided with chartering of Caltech chapter

Abigail Berns

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Education

Caltech, Pasadena CA

Bachelor of Science in Biology

GPA: 3.8/4.0

June 2019

University of Cambridge, School of Biomedical and Health Sciences, 1/2018-6/2018 Junior Semester Abroad

Research / Laboratory Experience

Research Fellow, Laboratory of Parasitic Diseases

National Institute of Allergy and Infectious Disease, NIH, Bethesda, MD

6/2018-9/2018

- Recipient of Intramural Research Training Award
- Manage care and treatment of 40 rats, including injection and assistance during MRI
- Quantitative analysis of experimental data
- Develop rat infection model for *Taenia crassiceps*
- Perform steriotaxic neurosurgery on rats to implant *Taenia crassiceps* metacestodes
- Design and present academic and experimental results

Research Assistant, SURF Biology Department, Caltech

5/2017-12/2017

- Developed test to quantify biofilm formation of UTI-causing *E. coli*
- Trained and supervised first year research student

Community Health Experience

Intern, Communicable Disease Control Division, Boston Public Health Commission

6/2018-8/2018

- Adjusted state response survey to meet cultural needs of specific immigrant community during epidemiological investigation of an outbreak of foodborne illness
- Interacted with wide range of multi-ethnic, low-income patients while performing intake at free tuberculosis clinic
- Researched and created fact sheets for general public on pandemic influenza in infants and children
- Developed focus group oral questionnaire and written survey on community health practices surrounding pandemic flu

Intern, Clinical Serology Lab, Strong Memorial Hospital, Rochester, NY

6/2016-8/2016

- Handled HIV-positive sera, confirming accuracy of rapid HIV kits
- Tracked confidential patient records for a New York State HIV study

Publication

White, C. A. L. Berns, and S. Smith 2013. Low temperature (15 °C) increases expression of biofilm-, cold-shock- and RpoS-dependent genes in *Escherichia coli*. *Microbiology*; 150: 130-142.

Leadership Experience

Co-Chair/Religious Co-Chair, Caltech Hillel

9/2016-5/2018

- Conducted weekly meetings, delegated board member responsibilities, coordinated communications, organized guest speakers and holiday events for 200 people

JACOB JACKSON

(413) 244-1321 J_jackson@gmail.com

EDUCATION

California Institute of Technology, Pasadena, CA Bachelor of Science expected June 2020
Anticipated Major: Geophysics

Springfield High School of Science and Technology, Springfield, MA Graduated June 2016

SKILLS

GPS: Trimble mapping grade receivers (GEO XM), Trimble Pathfinder Office

COMPUTER: KaleidaGraph, Stata, Microsoft Office

LANGUAGE: Conversational Spanish

RELEVANT EXPERIENCE

Caltech, Pasadena, CA

Assistant, Spatial Analysis Lab

2018-present

- Produce professional-quality digital maps of Caltech campus infrastructure.
- Help lab staff train students in digital map production, spatial analysis, spatial database generation, and GPS field data collection.
- Develop and produce print training manuals and video guides for GIS and GPS users.

Pioneer Valley Project, Springfield, MA

Outreach Worker, Healthy Nail Salon Project

2017-present

- Invited to continue work on EPA-funded project after exceeding high school internship expectations.
- Develop and improve outreach and training materials on hazardous nail care products.

Baystate Medical Center, Pasadena, CA

Research Assistant

Jan.-Aug. 2017

- Compiled, geocoded, and analyzed databases for child obesity research.
- Updated and edited Excel database and socio-demographic data layers.

Center for Sustainable Development Studies, Atenas, Costa Rica

Study Abroad Student

June-July 2016

- Digitized hand-drawn and produced digital land-use/land-cover maps for Costa Rican national and municipal governments with use of GPS and field assessment.
- Assessed biodiversity conservation and land management policies and realities in Costa Rica.

LEADERSHIP EXPERIENCE

Pioneer Valley Youth Society, Springfield, MA

President, June 2017-May 2018 Youth Leader, Sept. 2015-May 2016

- Oversaw activities and communications of 100-members chapter of international organization.
- Mentored inner-city youth aged 7-18.

CHRISTINE PHAN

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626.685.3964 | c1phan@caltech.edu

EDUCATION

California Institute of Technology -- Bachelor of Arts
Major: Physics -- Cumulative GPA: 3.5

expected June 2019

University College London, England -- Junior Year Abroad program, 2017-2018

PUBLICATIONS AND PRESENTATIONS

Baumgartl, J. et al. including Christine Phan. "Particle Clearing and Trapping using Optically-mediated Airy Beams." *Optical Express*. (To be published in 2019).

"Propagation of Orbital Angular Momentum States of Light in Turbulent Media."
Symposium on Undergraduate Research DLS Meeting LS-XXIV, Pasadena CA, October 2018

RESEARCH AND TEACHING EXPERIENCE

Teaching Assistant, Caltech Astronomy Department, Pasadena, CA January 2018 – present
Held evening lab hours weekly to assist in teaching laboratory material to students in introductory astronomy courses. Assisted in solar and night-time telescope observations for Smith faculty, students, and guests.

Research Intern, University College London, England August 2017 – December 2018
Developed optimized process for particle clearing and trapping using optically-mediated Airy beams. Wrote LabVIEW program with user interface that controlled experimental parameters. Conducted experiments using program, and employed MATLAB for data analysis. Results showed that Airy beams successfully manipulated micro-particles. Experimental procedure will be applied towards research involving optical sorting of animal cells and other biological material.

Teaching Assistant, Caltech Physics Department, Pasadena, CA January 2017 – May 2018
Tutored students in a 3rd-year course, Thermal Physics, on a weekly basis. Helped students prepare for exams and homework assignments by going over concepts in thermal physics, statistical mechanics, and introductory physics. Graded problem sets for General Physics I, General Physics II, and Modern Physics I.

Research Intern, SURF Program, Pasadena, CA June 2016 – August 2017
Researched adaptive optics and orbital angular momentum (OAM) states of light for a summer REU project. Set-up and performed several experiments to characterize the propagation of OAM states through turbulent media. Wrote LabVIEW and MATLAB programs for data collection and analysis. Data suggested that OAM states are good candidates for quantum cryptography.

GRANTS

Awarded NSF research grant, 2018

TECHNICAL SKILLS

Mathematica, LabVIEW, LaTeX, MS Office, JavaScript, MATLAB, , Adobe Illustrator, Adobe Photoshop

CO-CURRICULAR EXPERIENCE

Member, Caltech Ultimate Frisbee

2015 – present

Charles Macron

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www.Macrondesign.net www.linkedin.com/in/CMacron

Education

Caltech, Pasadena, CA Bachelor of Science expected 2020 Major: Computer Science

University of Melbourne, Australia, Fall Semester Study Abroad 2018

Completed coursework in Computer Science and Foreign Language

Technical Summary

Python, Java, Assembly Language, HTML, OpenGL, Pure Data, POVRay, Csound, PHP, Photoshop, Dreamweaver, Illustrator, Audacity, 3D StudioMax, Reaper, AutoCad, Blender, Windows, Mac, Linux experience

Experience

Webmaster, Web Designer, Writer MusicSquared (Jan 2018 - present) <http://musicsquared.net>

- Designed and produced original layouts for multi-part webzine created in partnership with a translator for publication of original articles and translations centering on the Japanese music scene and its surrounding subcultures
- Handled email and other internet correspondence with readers and industry representatives for promotion, press arrangements, and site-related inquiries
- Perform article research, conduct fan and artist interviews, and review performances and artist recordings

Tech Support and Lab Assistant Caltech IMSS (Sept 2017 - May 2018)

- Aided lab patrons with multimedia production on Windows 8, XP and Mac OS X computers
- Provided on-site troubleshooting and classroom support for professors and faculty who gave Technology-assisted lectures and presentations
- Assisted supervisors with projects such as developing interactive French learning software and organizing computer based curriculum material for classes
- Responded to all phone calls and in-person questions presented at the help desk with appropriate answers or re-direction

Production Intern, Web Design Metamorphoses Journal of Literary Translation (June 2016 - Aug 2017)

- Designed and created new graphic interface for existing website based on requested themes
- Cleaned and edited HTML code developed by previous webmaster
- Updated information for latest journal publications
- Analyzed translations for quality and accuracy
- Copy-edited submissions chosen for publication