

# Getting an Engineering Job

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ESMI 2022

# 6 - 7 seconds

This is the average amount of time an employer will spend looking at your resume.

Today we'll talk about how to create a good resume then tips/tricks to getting an internship or job after your graduate.

# What should I include on my resume?

- Name (should be the largest thing on the page)
- Contact information (email, phone number)
- Relevant websites (personal websites, linkedin, github, ...)
- (optional) professional summary
- Experience - Work experience, projects, ESMI
- Education
- Skills
  - Hard skills: programming languages, modeling software, welding, web scraping, ...
  - Soft skills: leadership, teamwork, creativity, desire to learn
- Relevant coursework
- Awards

# Professional summary

Basically the same as an elevator pitch! It should be 2-3 sentences.

## QUALIFICATIONS SUMMARY

Looking to obtain a position as a software engineer and apply my many years of experience and skills.

Bad!

Results-driven computer science student from University X passionate about developing user-friendly software applications. Excellent problem-solving skills and ability to perform well in a team. Seeking to help Company Y develop their product as a software engineer, as well as grow and develop my own skills as a coder.

Good!

# Experience section

If you haven't had any jobs recently, include personal/professional projects! ESMI and project teams should be here.

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## PROFESSIONAL EXPERIENCE

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### **Mechanical Engineer** -- ABC Company, 3/10 to Present

*Design, develop, validate and test mechanical components for a leading manufacturer of off-road machinery parts.*

- Assisted in all phases of the product-development lifecycle, from conceptualizing new product ideas through sketching, creating models, developing engineering designs, prototyping, testing, supporting production and rolling out new and improved products.
- Served on team that introduced new or enhanced existing products in the following categories: torque converters, cylinder heads, exhaust elbows, turbochargers, turbo couplings and muffler stacks.
- Conducted modeling, simulation and analysis of structural components using CAD techniques, PTC Creo Elements/Pro and Abaqus FEA Suite.

### **Junior Mechanical Engineer** -- DEF Company, 3/08 to 3/10

*Provided mechanical engineering support to the product-development team for one of the country's fastest-growing underwater LED lighting manufacturers.*

- Contributed to the release of LED anchor-masthead and LED underwater lighting products.

Too many big blocks of text.

# Tip: Don't use blocks of text

Other than professional summary section, you should not have blocks of text.

## Relative Experience

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### Personal Design Projects

Fully 3D Printed Electric Generator

- Extensive use of CAD for part design
- Extensive Use of rapid prototyping to produce components
- Knowledge in the manufacturing of a 3 phase generator
- Evaluation of performance of current design for future improvements.

Open sourced Swiss Lever Escapement

- Featured Design on thingiverse with high popularity
- Extensive use of CAD and rapid prototyping
- Releasing exploded drawings to aid in assembly for users

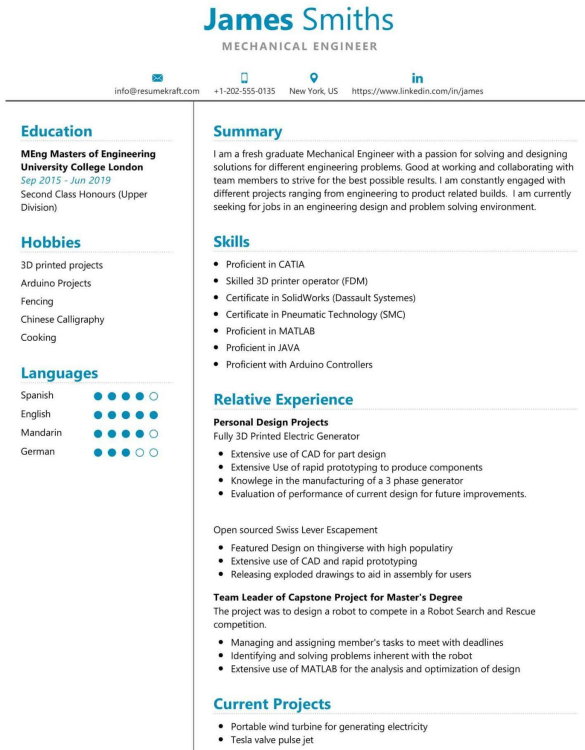
### Team Leader of Capstone Project for Master's Degree

The project was to design a robot to compete in a Robot Search and Rescue competition.

- Managing and assigning member's tasks to meet with deadlines
- Identifying and solving problems inherent with the robot
- Extensive use of MATLAB for the analysis and optimization of design

No large blocks of text... good!

# Tip: Tailor the resume to the job



This would be a fantastic resume for a mechanical engineering job, but not a software development engineer

Side note: does anything else look weird here?  
Too much white space and don't need languages

# Tip: Aesthetically pleasing and easy to read

## James Smiths

MECHANICAL ENGINEER

info@resumekraft.com +1-202-555-0135 New York, US https://www.linkedin.com/in/james

### Education

**MEng Masters of Engineering**  
**University College London**  
*Sep 2015 - Jun 2019*  
Second Class Honours (Upper Division)

### Hobbies

3D printed projects  
Arduino Projects  
Fencing  
Chinese Calligraphy  
Cooking

### Languages

Spanish ●●●●○  
English ●●●●●  
Mandarin ●●●●○  
German ●●●●○

### Summary

I am a fresh graduate Mechanical Engineer with a passion for solving and designing solutions for different engineering problems. Good at working and collaborating with team members to strive for the best possible results. I am constantly engaged with different projects ranging from engineering to product related builds. I am currently seeking for jobs in an engineering design and problem solving environment.

### Skills

- Proficient in CATIA
- Skilled 3D printer operator (FDM)
- Certificate in SolidWorks (Dassault Systemes)
- Certificate in Pneumatic Technology (SMC)
- Proficient in MATLAB
- Proficient in JAVA
- Proficient with Arduino Controllers

### Relative Experience

#### Personal Design Projects

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### Current Projects

- Portable wind turbine for generating electricity
- Tesla valve pulse jet

Good in terms of being aesthetically pleasing and easy to read!



# Tip: use a resume template

Let's look at a quick Latex demo!

## Tip: Use impressive words

Words like “pioneered”, “redesigned”, and “achieved” sound much better than “completed”, “changed”, and “did”.

For ESMI, say “Engineering Summer Mathematics Institute” instead of “ESMI”. It sounds cooler.

# Tip: optimize your resume for ATS

Applicant tracking systems read through your resume before a hiring manager does.

- Appropriately label your sections
  - Say “work experience” instead of “Jobs I’ve done”
- Include job related keywords
  - CSS, C++, Javascript, Collaborative, Innovative thinker
  - Include words from the job posting
- Don’t use unique fonts

# Last words about resumes

- Your resume should be a living document. You should constantly be updating it!
- Only include things from high school if they are relevant or if you need more things to fill up your resume
- Should not be more than a page
- Little white space
- No errors

# Resume examples

**Sally Sad**  
45 Parents' House Lane, New Britain, CT 06114  
(555) 555-6789 ■ SALLYBabyGURL@email.com



OBJECTIVE	Awesome graduate of life seeking any fun position requiring a cool girl with a great sense of humor and style!
SUMMARY	<ul style="list-style-type: none"><li>• Mostly free, except every day between 2-4 p.m. (gym time)</li><li>• Good at holding a conversation about anything</li><li>• Great at updating Facebook and anything I can post pictures on</li></ul>
EDUCATION	Central Connecticut City High School, New Britain, CT High School Diploma
WORK EXPERIENCE	High School Yearbook, New Britain, CT Photographer (September 2006-June 2007) <ul style="list-style-type: none"><li>• Shot pics of my friends!</li><li>• Added cute details in Photoshop</li><li>• Went to weekly meetings</li></ul> First Job Burgers, Wallingford, CT Grill Cook (September 2007-Present) <ul style="list-style-type: none"><li>• Flip burgers and fill condiment containers</li><li>• Deal with annoying customer requests</li><li>• Answer phone</li></ul> Bakery Best, New Britain, CT Volunteer Cupcake Tester (June 2008-August 2008) <ul style="list-style-type: none"><li>• Liked chocolate best</li></ul>
HOBBIES	Dancing, Photography, Social Media

Bad example

# Resume examples



## Gurt Rugg

Regional Manager/Cryptocurrency Expert

Motivated go-getter with robust experience in maximizing synergy in businesses. Naturally detail-oriented and a self-starter. Hire me to drive results and achieve quantifiable goals.

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### Hit me up

**Mobile:**

123-456-7890

**Email:**

burt.rugg@email.com

**Website:**

fresh-ideas-revolution.io

**Address:**

14 Manhattan Ave., Baltimore, MD

**Personal motto:**

"Success is where preparation and opportunity meet."

- Bobby Unser

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### Work Experience

**Regional Manager**

**Cheesecake Factory, Towson, MD | July 2020 - December 2021**

- Developed holistic solutions to low sales by targeting underperforming ROI
- Reduced variable costs by strategically not paying overtime wages
- Trained new employees to think innovatively and be hungry for success
- Pioneered a cutting-edge sales strategy via the introduction of our weekly "Tortilla Tuesday" special
- Recognized as a thought leader in the food and beverage industry due to my ability to think outside the box

**Blockchain Pioneer**

**Self Employed | 2018 - Present**

- Masterminded and launched game-changing NFT project "Dope Sea Chimps"
- Provide personalized online lessons on blockchain technology and the data-driven event horizon that is web 3.0
- Personally predicted the rise of machine learning vis-a-vis the metaverse

Unprofessional

# An interesting take on resumes

8:08 PM Mon Oct 4

Search Facebook

## Dominic Diaz

PHD student in applied mathematics at Cornell University (2019-now)

- Research: Graph neural networks for PDEs (applications in fast surrogate/forward models) and swarms (swarm model verification and learning from swarms).
- Funded by Sloan-Coleman Graduate Fellowship; GPA: 3.9

Undergraduate student in applied mathematics and physics at UCLA (2015-2019)

- Research: Bidensity particle-laden slurries. Conducting experiments, image processing, and learning fluid dynamics.
- Double major; GPA: 3.7

### Posts

Queer, Hispanic PhD student interested in machine learning, simulations, and computer vision. Pioneering the use of graph neural networks for homeless populations and swarms. I'm looking for an ML internship for Summer 2022 and would love to work with Facebook.

Dominic Diaz is with CU EMPower  
July 2021 - now

Coordinator for a mentor program supporting URM students in Cornell Engineering

- Directing program of 100 participants
- Event planning, mentor training, coded mentor matching software

Mike Schroepfer and 21 others

Like Comment Share

Dominic Diaz is with UCLA Department of Mathematics  
March 2017 - now

Project with UCLA faculty to model homeless populations using ML

- Pioneering first neural network models and data science techniques for understanding homeless population dynamics
- Working with interdisciplinary team (mathematicians, statisticians, anthropologists, and physicists)
- Internet scraping for area-specific data (number of restaurants, bus stops, grocery stores, ...)

Mark Zuckerberg and 34 others

Like Comment Share

Dominic Diaz is with the Learning Assistant Program at UCLA  
August 2016 - July 2019

Logistical Planning for all of the Learning Assistant Program at UCLA

- Coordinating planning for 200 undergraduate TAs whose efforts reached around 5000 UCLA undergraduates
- Meeting professors to expand the program, with a focus on making mathematics and physics at UCLA more equitable

Sheryl Sandberg and 55 others

Like Comment Share

### Personal Information

Phone number: (510) 342-8060  
Email: dad358@cornell.edu  
GitHub: <https://github.com/dodiaz>  
Address: 116 1/2 Heights Court, Ithaca, NY  
LinkedIn: [www.linkedin.com/in/dominic-diaz-math](https://www.linkedin.com/in/dominic-diaz-math)

### Photos

Python, PyTorch, TensorFlow, Matplotlib

MATLAB C/C++

OpenMP MPI Linux (Ubuntu)

Not pictured: Mathematica, Microsoft Windows, Google Cloud Platform

Cornell Graduate School Dean's Scholar, 2019-2021

Sloan-Coleman Graduate Diversity Fellowship, 2019-2024

### Recently Active Groups

Deep Learning, Computer Vision, and Probability

Parallel Computing, Data Structures and Algorithms

Computational Fluid Dynamics, Numerical Simulations

See More

### Breaking News: Dominic Diaz is TAing Intro to MATLAB and is mentoring a project to determine what data correlates with COVID-19 data.

### Friends

Prof. Christopher Earls, Civil and Env. Engineering, Cornell University, (607) 255-1652

Dr. Claudia Falcon, Dep. Of Marine Sciences, UNC Chapel Hill, cfalcon@email.unc.edu

If you brought your own resume, pull it out, find a partner and critique each others' resumes.



You've created a resume, now what?

# When applying to jobs....

Apply in this order:

- Referral from employee at company
- Minority career fair
- Regular career fair
- Apply on Cornell's Handshake
- Apply directly to job's website without referral (you should almost never do this)

What are minority career fairs??



Join slack workspaces, attend career fairs, attend talks, and NETWORK! People here want you to succeed.

# How to network successfully

- Before you attend any networking event, get clear on what talents, strengths, skill sets and connections you can bring to the table. Map out what you want to talk about, particularly how you may be able to help other people, either now or in the future. Practice your elevator pitch!!!
- Network everywhere!
- Tell your friends that you're applying to jobs/internships
- Be an active listener, don't ignore what someone else is saying to think about what you want to say
- Make a linkedIn!

# Finding the right job for your skillset

## Steps:

1. Start by looking up “\_\_\_\_\_ engineering internships” on Google. Or if you have a specific skillset you want to exploit, look up “[skill] internships” (for example “fluid dynamics internships”).
2. Have at least 80% of the minimum qualifications.
3. Apply! (see the “When applying to jobs....” slide)

# Best classes to help land you a job

- Object-oriented programming
- Statistics
- Machine learning
- virtual/augmented reality
- Data structures, algorithms, and software engineering

# Questions for engineering graduate

1. When should I start looking for internships for the summer?
  - a. Fall semester and Spring semester!
2. What do summer internship interviews look like and how did you secure an interview
  - a. It was a phone interview with a variety of technical and problem solving questions. Also questions to see what your personality is like and how you would fit into the team. I met the recruiters at job fairs and through student organizations / events.
3. How did you get your post-graduation job?
  - a. I talked to recruiters and got referred to the company through a classmate.
4. Any advice?
  - a. Definitely join clubs and network amongst your classmates / young professionals. Attend the different events to the best of your abilities. Try to get a leadership role within these organizations. They do help you to stand out

Do you have any other questions?