Communication for Engineers

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Why build soft skills?

In the job search (and in life), you want people to feel that you are:

- competent
- responsible
- friendly

To do this, you need to communicate effectively with other people.

Note: You can communicate well if you have an accent, as long as you get your point across in an appropriate way.

What we'll cover

1. Getting the Interview: Resume writing & Networking
2. Talking in the Interview

Who I am

- Studied finance and accounting in college
- 3 years of management consulting and analytics consulting at PwC
- Current 2nd year MS student in Data Science

Getting the Interview

Resume Writing

To create a resume that stands out:

- Tailor your resume to the position(s) you're applying for: **Job descriptions are a great starting point!**
- Craft a resume that tells a story about who you are
  - eg. In my job search, my message is: "I have a background in business/consulting, and am in school to deepen my theoretical knowledge. My business acumen, technical ability, and leadership skills make me a data scientist who can drive impact."
- Highlight your hard and soft skills
- No work experience? → do an independent project
- Where possible, use numbers to describe the scope or impact of a project
- Use action verbs (list of 200+ here)

Resume Bullet Example

Before:

Identified key topics from customer complaints for a banking client by removing stop words, using stemming, k-means clustering, LDA, Word2Vec, and other statistical techniques; learned to create and use a MongoDB database for the project

After:

Identified key drivers of customer complaints for a banking client by analyzing complaints text documents using k-means clustering, LDA topic modeling, Word2Vec, and other statistical techniques in Python; recommendations helped client address top causes of customer dissatisfaction

Resume Bullet Example

Before:

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Don't talk about cleaning data

The db was not key to the project, and I'm not trying to highlight my db skills

After:

Identified key drivers of customer complaints for a banking client by analyzing complaints text documents using k-means clustering, LDA topic modeling, Word2Vec, and other statistical techniques in Python; recommendations helped client address top causes of customer dissatisfaction

Show the *impact* of your actions

General Resume Tips

- 1 page only!
- Create multiple versions for different positions (eg. product analyst, ML engineer, data engineer)
- Be consistent in your style
  - eg. how you format dates, when you use bold/italic/underline
- Only include items that you can speak to
- Save as PDF
  - File name should include your name (not just “resume_102017.pdf”)
- Proofread rigorously!

The Elevator Pitch

When meeting recruiters or other professionals, use your elevator pitch to introduce yourself and to get the conversation started:

1. **Who you are** (education, work experience)
2. **What you're looking for** (a particular position, company, industry, etc.)
3. **A question** to start the conversation ("Can you tell me about…", "I'd love to hear about…")

Example:

"Hi, my name is Rachel Zhang, and I'm a Master's student in data science. I have a background in business and worked for the past few years in analytics consulting, where I gained experience in machine learning. I'm really interested in healthcare and am looking for a summer internship. Can you tell me about the internship opportunities at XYZ?"

Now you try!

Networking Tips

Before

- Research the companies or people you expect to meet & strategize
- Practice your elevator pitch
- Dress nicely and comfortably
- Bring hard copies of your resume

During

- At large events, keep things short and sweet: get the info you need, make a good impression, and move on
- Get business cards and take notes on them
- Exit strategy: “This position sounds really interesting. How do I apply? Is there a way I can contact you if I have more questions?”

After

- Follow up within 24 hours
- In your thank-you email, include:
  - your elevator pitch
  - something memorable from the conversation
  - your resume

Talking in the Interview

Essential Interview Questions

Every interviewer expects you to be able to answer these questions:

- “Tell me a little bit about yourself”
- “Talk about the xyz project/internship/job on your resume”
- “Why do you want to work here?” “Why do you want this position?” *“Why should we hire you??”* 😵
- “Do you have any questions for me?”

In other words, you should be able to:

- Talk about anything on your resume
- Speak in a clear and concise manner
- Ask good questions

STAR Technique ⭐

STAR is a great framework for talking about your past experiences.

Situation: Give us some context about the situation.

Task: What was the problem you tried to solve?

Action: What did you do? Why did you use certain approaches and not others?

Results: What was the outcome as a result of your actions? Why did this matter?

Now you try!

Behavioral Questions

Companies sometimes ask behavioral interview questions to learn about how you've handled certain situations in the past.

Common behavioral questions:

- "Tell me about a time when you worked in a team"
- "Give an example of a goal you reached, and tell me how you achieved it"
- "Tell me about a time when you resolved a conflict"

How to prepare:

- Familiarize yourself with common behavioral questions
- Prepare 3-5 stories (in STAR format) that apply to 80% of these questions

“Do you have any questions for me?”

Yes, you do!

Good Questions	Bad Questions
• “What makes a good data scientist at XYZ?” • “What is the career progression like for this role?” • “How does your team interact with the rest of the company?” • Other great questions here	• “How many hours do you work?” • “Do you drug test unexpectedly?” • Anything you can find the answer to online

Practice, practice, practice!

My personal tips:

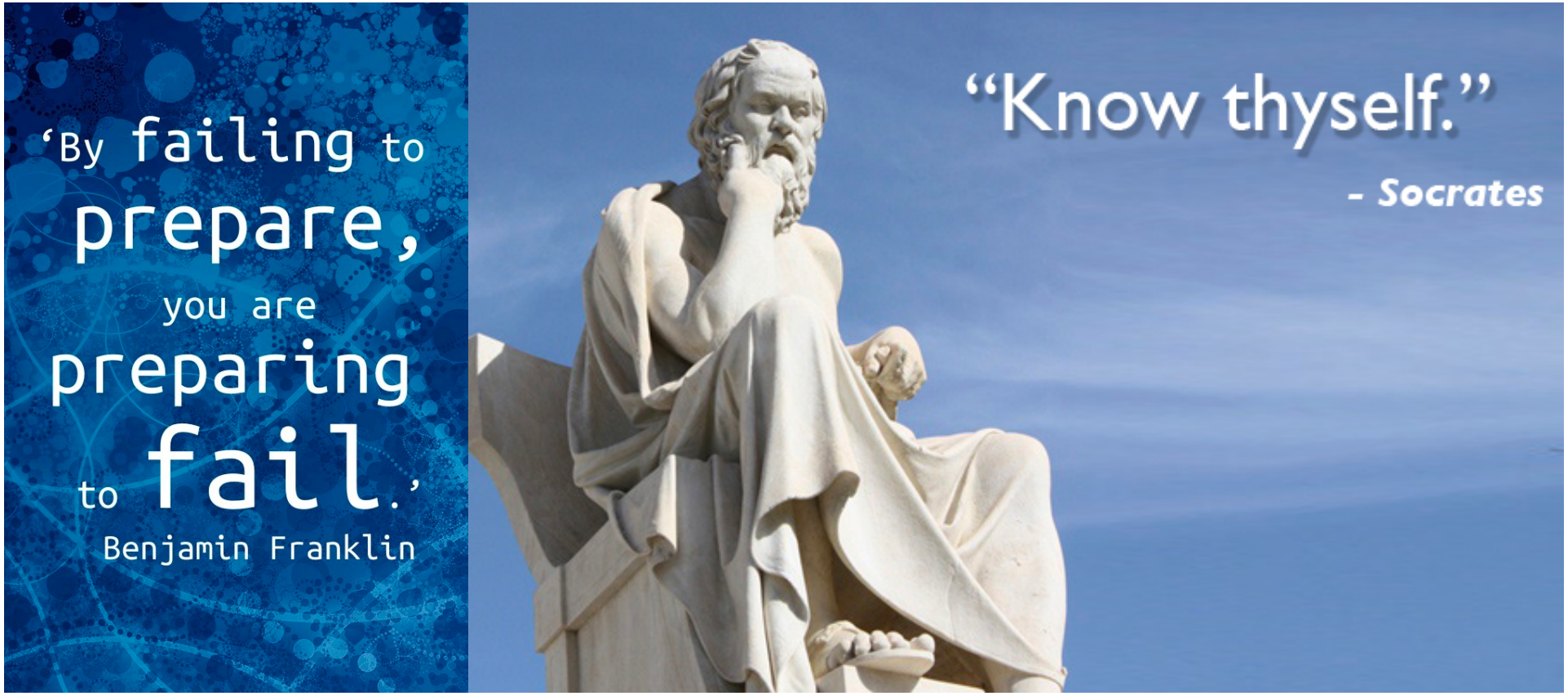
- Go through your resume and common interview questions, and write down what you want to say
- Practice in front of the mirror, friends, career center staff
- Record yourself and see if you talk too fast/slow, say “um/uh/you know” too much, or if you usually make mistakes at the same places

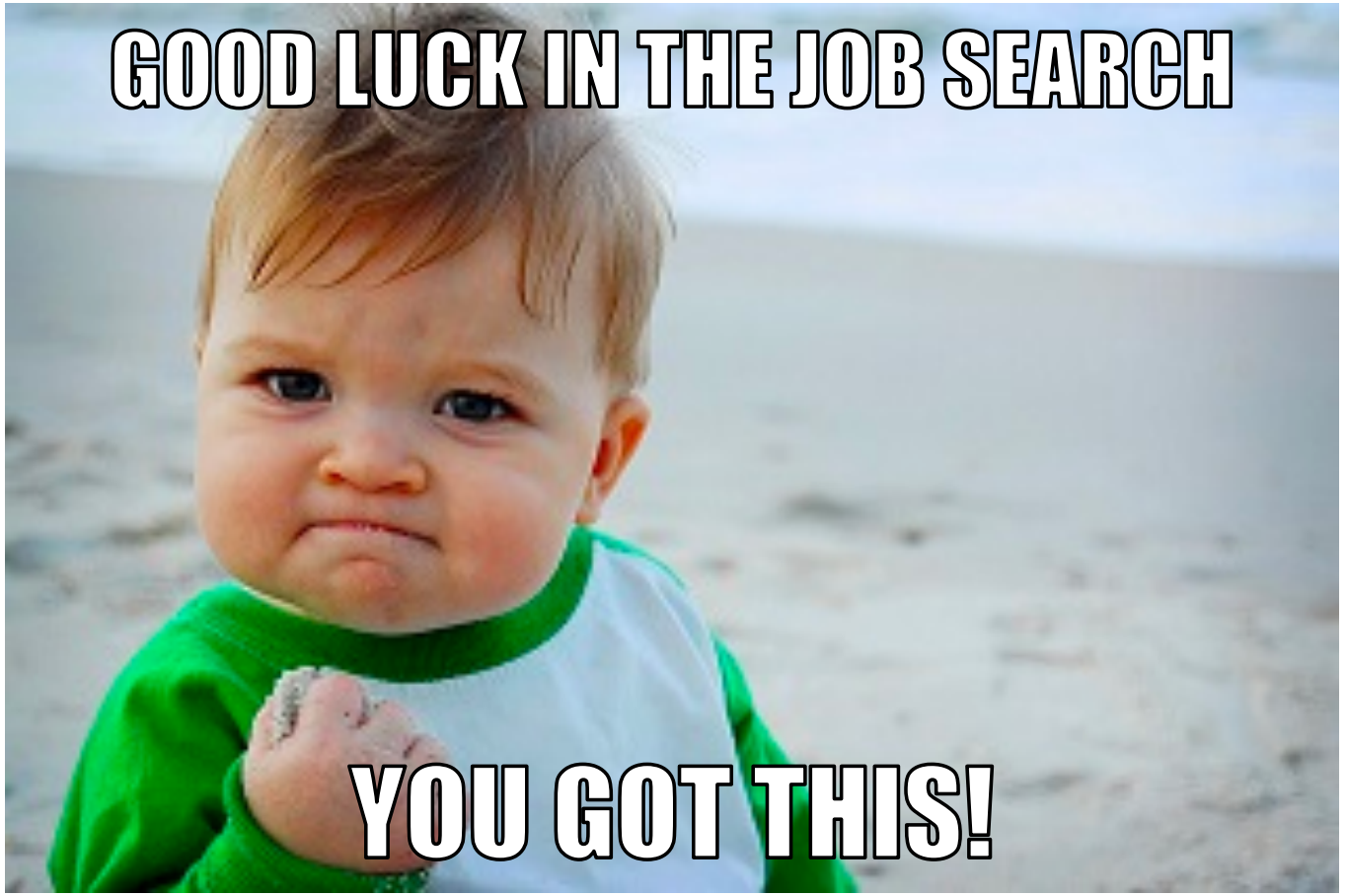
Day of the interview:

- Dress nicely, even for phone interviews (to put yourself in the interview mindset)
- Breathe
- Smile, you got this!

Other great interview tips (technical & non-technical) here

Summary


'By failing to prepare, you are preparing to fail.'
Benjamin Franklin
"Know thyself."
- Socrates


GOOD LUCK IN THE JOB SEARCH
YOU GOT THIS!