

Interviews 101

Annie En-Shiun Lee
Tuesday, September 7th, 2021
9:30 a.m.-12:30 p.m.

Introduction

Who am I?

Who are you?

Rules of Engagement

Icebreaker

Goals of this Session

By the end of this session you will be able to:

- Recognize interviews formats, approaches and situations you might encounter
- Develop and execute a plan for an interview roadmap
- Answer different types of interview questions
- Analyze and review interviews - understand what employers are looking for and determine strengths and weaknesses
- Access further interview resources and information if necessary

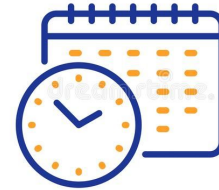
Upcoming Events:

- Fall - Industry Partner Night, ARIA
- December and January - Mock Interviews
- Winter - ARIE
- ...you may also have additional interviews in between...



Outline of Today's Schedule

- What is an Interview?
 - **The Purpose** of an Interview
 - **Preparing** for the Interview
 - Self-Inventory (Long-term Vision)
 - Telling a GOOD Story!
- The Interview Process
 - The Power of **First Impressions**
 - Interview **Formats and Approaches**
 - **Types** of Interview Questions
 - Behaviour-Based Questions
 - The STAR Approach (Resume and Interview)
 - Tell me about yourself...
 - **Tricky** situations
- **Your Turn** - The ball is in your court
 - Questions you can ask
 - Ending the interview
 - Thank-you letters
 - Post Interview evaluation
- The **Coding** Interview
 - Motivation: Past MScAC Interview(s)
 - When you Get Stuck
 - How to Prepare
 - Preparation Road Map



Quiz for the Audience

How many International or North American companies have you worked for?

How many different companies have you interviewed with previously?

How much time have you spent preparing for interviewing with one company?

What is an Interview?

The Purpose of an interview

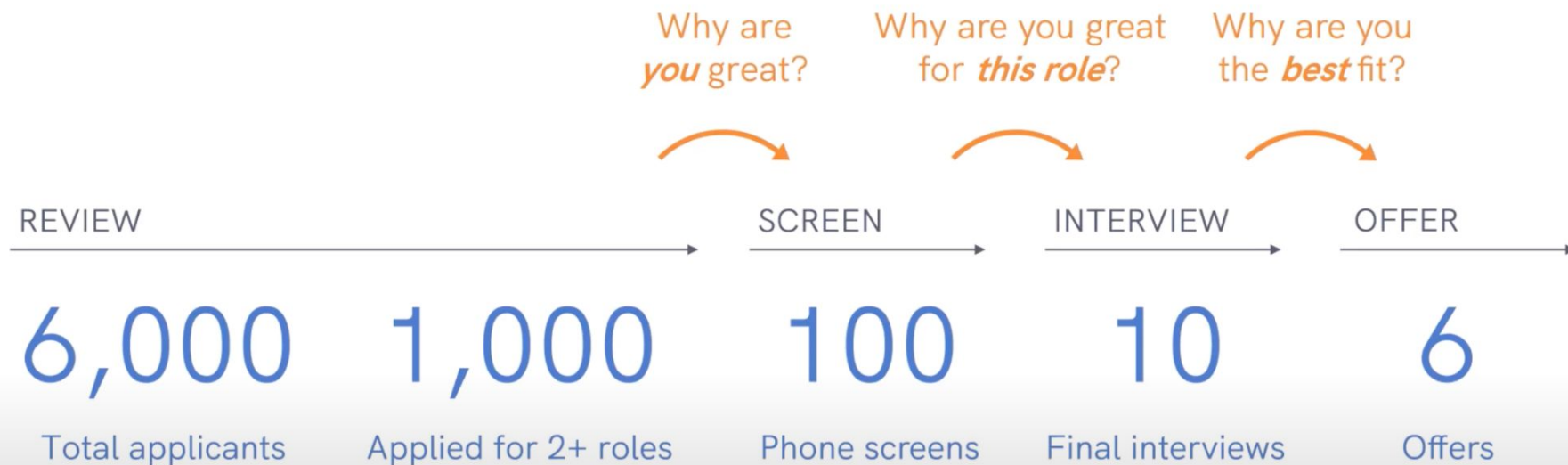
The only three true job interview questions are:

1. Can you **DO** the job?
2. Will you **LOVE** the job?
3. Can we **TOLERATE** working with you?

Strengths, Motivation, Fit



"Data Co." was hiring



Who do you need to convince?



The Recruiter

... finds and screens applicants. They do not make a hiring decision.



The Hiring Manager

... coordinates with the recruiter. You're likely to work or report to them.



The Team

... is who you'll work with. You'll meet them at the "on-site" interview.



The Company

... has a culture, a vision, a product. You'll want to believe in it.

Preparing for the interview

Know yourself

- Interests
- Skills
- Personality preferences
- Values/motivations

Know the Company

- “What do you know about our company?”



ASIDE: Self-Inventory Resources

- Longer Flower Exercise from “[What Color is your Parachute](#)”
- Shorter UTM Self-Inventory: [Understanding your strengths, values, and interests](#)
- Interview Preparation Grid from McDowell, Gayle Laakmann. [Cracking the coding interview](#): 189 programming questions and solutions. CareerCup, LLC, 2015.

The image shows a self-inventory form titled "What Color is your Parachute?". It consists of seven numbered circles arranged in a flower-like pattern, each containing a specific question for reflection. The questions are:

- 1 My Preferred Kinds of People to Work With:
1
2
3
4
5
My Holland Code: ☐ ☐ ☐
- 2 My Favorite Working Conditions:
1
2
3
4
5
- 3 What I Can Do and Love to Do (My Favorite Transferable Skills):
1 6
2 7
3 8
4 9
5 10
- 4 My Goal, Purpose, or Mission in Life (or my philosophy about life):
- 5 My Favorite Knowledges or Fields of Interest:
1 4
2 5
3
- 6 Level of Responsibility I'd Like:
My Preferred Salary Range:
Other Rewards Hoped For:
- 7 My Preferred Place(s) to Live:
1
2
3
My Preferred Geographical Factors:
1
2
3
4
5

Deciding What to Do 5 Years from Now



*"Instinctively, you will always hire someone who has a lot of **enthusiasm and passion** for what they are doing... that's what your **inventory** is about, figuring out what you **LOVE the most**"*
-- Dick Bolles, Author of "What Color is your Parachute"

Tell a Good Story!



*"I remembered the people who **showed up** and had **really interesting** story, experience, project, vision, or opinions that **resonated** with me."*
-- Wojciech Gryc, Co-Founder of PhaseAI

Activity Time

Brainstorm a story of something you accomplished, shared with your partner.

The Interview Process

The Power of First Impressions

- First impression are **hard to change**, interviewer decides in **first 5.5 minutes**
- Do a **web search** on yourself to see what employers see when pre-screening you
 - All sites, blogs to ensure professional
- Arrive **early**, **dress** appropriately (for the organization, when in doubt go conservation), set **electronics** to silent
- It's ok to be **nervous**, interviewers may begin with “**small talk**”, remember still evaluated so be **POSITIVE**



ASIDE: Additional Resources for Small Talk

[9 TIPS FOR HOW TO MAKE INTERVIEW](#)

[SMALL TALK](#) By Maddie Lloyd - Feb. 15, 2021

[How to Make Small Talk Before Your Interview](#)

by Natalie Fisher | September 10, 2018

[Build Relationships with Small Talk](#)

[How to make GREAT Small Talk](#) | English Conversation Practice

[Small Talk Before a Job Interview](#) in English - Business English Lessons

Top Interview Tips: [Common Questions, Body Language & More](#)



Who do you need to convince?



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The Company

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The Interview Process - For a Full-time Position

The process is unique for every company; it may be non-linear and include different steps



PHONE SCREEN

Initial, brief phone interview with a recruiter



REMOTE INTERVIEW

In-depth phone or video interview with the hiring manager



TESTING

Technical and non-technical tests that demonstrates the candidate's thinking and skills



"ON-SITE" INTERVIEW

In-depth "on-site" interview with the hiring manager and other team members



STAKEHOLDER PRESENTATION

Presentation of take-home test results back to the hiring manager and team



NEGOTIATION

Negotiation of terms of employment including salary, benefits, and structure

Breaking Down the Interview Process



Interview Formats and Approaches

Interview Formats

- Individual interview
- Interview with two or more people
- General/group interview or information session
- Competitive group interview
- Telephone interview
- Video conferencing or Zoom
- Second/Third... interview

Approaches to interviewing

- Structured interview
- Unstructured interview
- Semi-structured interview



Types of interview questions

- Behaviour-based Questions (The STAR Approach)
- Situational/Hypothetical Questions
- Skill-Testing Questions
- Problem-Solving Questions
- Case Interviews
- Classic Questions
- Tell me about yourself...
- The CODING Interview



Activity Time

Which interview type are you most interested in knowing more about?

Behaviour-based questions

Get to know prior experience better, since past behaviours indicate future function.

Ex. Tell me about a time when...", "Give me an example of..." or "Describe a situation in which..."

Tips.

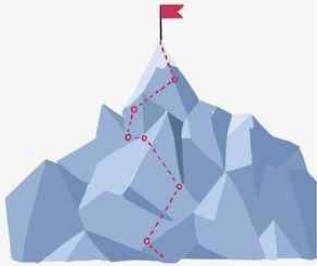
- Be specific, not arrogant
- Limit Details
- Focus on YOURSELF, not your team
- Give structured answers: nugget first, or S.T.A.R. (fill in a table)
- Think about what it says: attributes

Common behaviour-based interview themes include the following:

- Working effectively under pressure
- Handling a difficult situation with a co-worker or a client
- Completing a project on time
- Anticipating potential problems and developing preventative measures
- Making a quick decision during the absence of a supervisor
- Adapting to a difficult situation

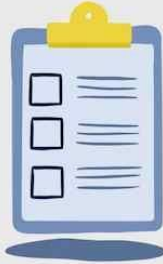
The STAR Approach (Resume and Interview)

The STAR format stands for *Situation, Task, Action, Result*:



SITUATION

An event, project, or challenge faced



TASK

Your responsibilities and assignments for the situation



ACTION

Steps or procedure taken to relieve or rectify situation



RESULT

Results of actions taken

Keep in mind:

- Be specific
- Source
- Prepare in Advance
- Use Visuals
- Outcome
- Benefits to Employer

90 seconds!!!

Activity Time

Take that same experience you shared and put it into STAR structure. Practice delivering to someone.

Interview Preparation Grid

Go through each of the projects or components of your resume and ensure that you can talk about them in detail. Filling out a grid like this may help.

| Common Questions | Project 1 | Project 2 | Project 3 |
|---------------------------|-----------|-----------|-----------|
| Challenges | | | |
| Mistakes/Failures | | | |
| Enjoyed | | | |
| Leadership | | | |
| Conflicts | | | |
| What You'd Do Differently | | | |

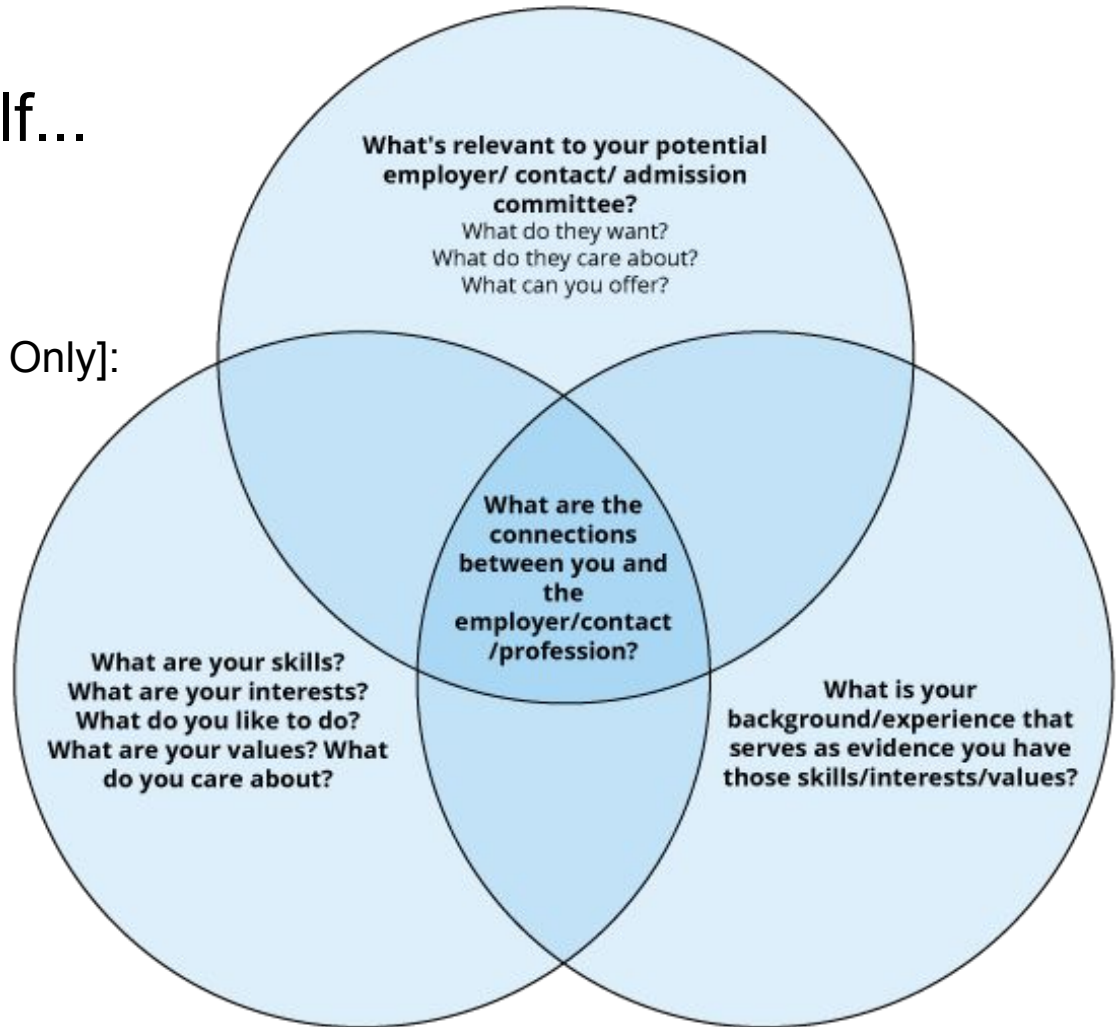
Interview Preparation Grid from McDowell, Gayle Laakmann. [Cracking the coding interview](#): 189 programming questions and solutions. CareerCup, LLC, 2015.

Activity Time

Fill out Project 1 in the “Interview Preparation Grid”

Tell me about yourself...

1. **Current Role** [Headline Only]:
2. **College:**
3. **Current Role** [Details]:
4. **Current Role** [Details]:
5. **Outside of Work:**
6. **Wrap Up:**



Tell Me About Yourself - Structure a Strong Answer



Activity Time

Come with with an answer to the question “So, tell me about yourself”

Tricky situations

- Being Stumped
- Negative Questions
- Having never worked or no recent work experience
- Silence or Note-taking

More Tricky Situations

- Salary
- Low Marks
- Interview talker
- Ageism
- Disclosure of disability
- Reason for leaving last job
- Poor/No references
- Proprietary Information

Your Turn - The ball is in your court

Questions you can ask

- What do you see as the priorities for someone in this position?
- What are the company's plans for the future?
- I've been reading about trends in XYZ. Given these new directions, is there anything (non-confidential, of course) that you could share with me about some of the opportunities and challenges you see coming for this field/sector overall or even for [company/organization name] in particular?
- How would you describe your organization's management style, culture, and/or working environment?
- What do you like most about your organization?
- How are employees evaluated and promoted?
- Please describe a typical day on the job?
- Is there a typical career path for a person in this position?



Ending the interview

- Understand the process that is next
- Ask **when** you can expect to hear about a decision or **when** you should follow-up.
- **Enthusiastically express your interest** in the position
- Ask for **contact information** so you can send thank-you email
- Make sure your email is sent within **forty-eight hours** of the interview



Thank-you letters

A thank-you letter for a job interview should include:

1. opening paragraph: employer, mention the date of the interview, and express your appreciation for the interview
2. second paragraph reaffirm **requirements** and **qualifications**.important info forgotten
3. third paragraph: correct any misunderstandings, counter objection raised
4. final paragraph: express interest in and enthusiasm

BONUS: Send thank-you email to everyone helping to:

1. Express your appreciation for their help
2. Keep them up-to-date on your activities
3. Retain their support



Post Interview Evaluation - Behaviour

- Was I **courteous** and professional with everyone I came in contact with?
- What did I do to make a solid first **impression**?
- What did I do to outwardly convey **interest, confidence** and **enthusiasm**? (e.g., maintain eye contact, vary voice tone)
- Overall, what **impression** did I make? Did I talk too much? Too little? Was I too tense? Passive? Aggressive?
- What points did I make that seemed to **interest/impress** the interviewer(s)?

Based on my performance, **would I hire me?**
Why or why not?



Post Interview Evaluation - Technical Qualifications

- How did I present my **qualifications** to **emphasize** how my skills are related to the job, providing **appropriate examples** as evidence?
- How did I **explain** my professional **goals, interests** and desires to the **benefit** of the **employer**?
- Did I pass up opportunities to further demonstrate how my work, academic and other experiences could **benefit the employer**?
- When did I use quantifiers to demonstrate how I could benefit the **employer profitably**?
- How did I demonstrate **knowledge** about the **position, company, and field of interest**?



Post Interview Evaluation - Next Steps

- Do I have enough **information** to make a knowledgeable **decision** about accepting the job? If no, **what more** do I need to consider and find out?
- Overall, what do I feel I **excelled** at during the interview?
- What else can I do to **better prepare** for future interviews?

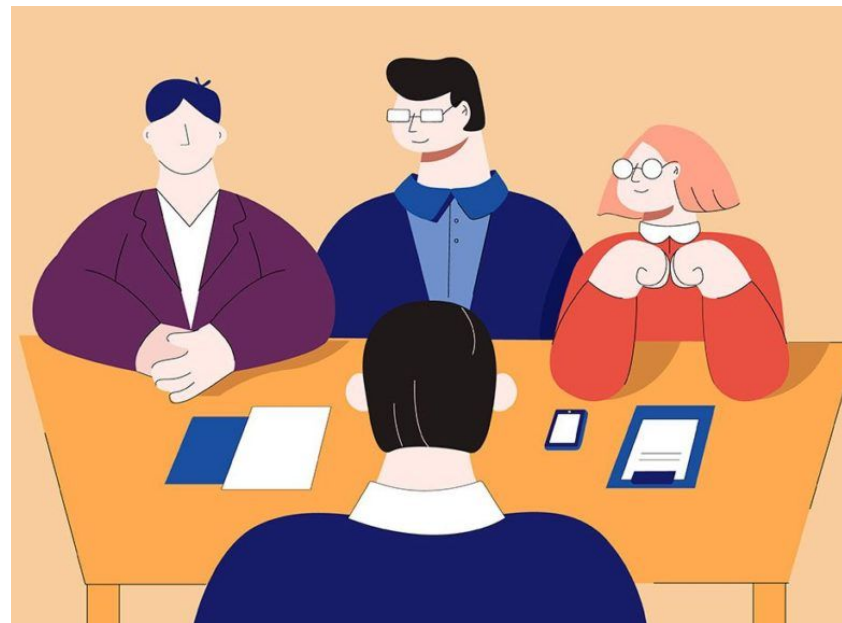


The Coding Interview

McDowell, Gayle Laakmann. [Cracking the coding interview](#): 189 programming questions and solutions. CareerCup, LLC, 2015.

Motivation: What MScAC interview(s) may look like

- 30 min talking about myself with the CEO, then 30 min of maths question with someone else, then 30 min of machine learning questions with the head of AI, then 30 min of coding questions on paper with a Software Architect, then 1 hour of coding problem alone on my laptop. Hardest interview I have ever had.
- Present in details a technical project that I have done, then do some coding questions. That's the most common machine learning interview.
- Same as above, but two times in a row, with two different recruiters.
- Introduce myself, then solve a problem, then asking questions about the company
- Present a paper, then a lot of questions based on an algorithm (SVM) used in this paper
- Just present one or several technical project(s) that I have done, then chat about the company culture
- Just chat (chillest interview ever)



The Coding Interview (50% of interviews)

Why? Show HOW you think

- Analytical skills - How you think and Solve Problems
- Make tradeoffs - Performance & Efficiency
- Push through hard problems
- Communication and Team player
- Strong CS Fundamentals - Algo & Data Struct
- Technically Skilled - Fluency in programming language and write clean understandable code

NOT

- Know the answers
- Solve immediately
- Code perfectly



Understand and Ask Questions

CRACKING THE CODING SKILLS

Created By Gayle Laakmann McDowell

Best Conceivable Runtime (BCR)

BCR is the runtime you *know* you can't beat. For example, if asked to compute the intersection of two sets, you know you can't beat $O(|A| + |B|)$.

5 Approaches

- **BUD:** Look for bottlenecks, unnecessary work, duplicated work.
- **DIY:** Do It Yourself
- **Simplify & Generalize:** Solve a simpler version.
- **Base Case & Build:** Solve for the base cases then build from there.
- **Data Structure Brainstorm:** Try various data structures.

Lastly, Check big-Oh

1

Listen

Pay **very close attention** to any info in the problem description. You probably need it all for an optimal algorithm.

BUD Optimization

Bottlenecks
Unnecessary Work
Duplicated Work

2

Example

Most examples are too small or are special cases. **Debug your example.** Is there any way it's a special case? Is it big enough?

3

Brute Force

Get a brute-force solution as soon as possible. Don't worry about developing an efficient algorithm yet. State a naive algorithm and its runtime, then optimize from there. Don't code yet though!

4

Optimize

Walk through your brute force with **BUD optimization** or try some of these ideas:

- Look for any unused info. You usually need all the information in a problem.
- Solve it manually on an example, then reverse engineer your thought process. How did you solve it?
- Solve it "incorrectly" and then think about why the algorithm fails. Can you fix those issues?
- Make a time vs. space tradeoff. Hash tables are especially useful!

6

Implement

Your goal is to **write beautiful code**. Modularize your code from the beginning and refactor to clean up anything that isn't beautiful.

5

Walk Through

Now that you have an optimal solution, **walk through your approach in detail**. Make sure you understand each detail before you start coding.

7

Test

Test in this order:

1. Conceptual test. Walk through your code like you would for a detailed code review.
2. Unusual or non-standard code.
3. Hot spots, like arithmetic and null nodes.
4. Small test cases. It's much faster than a big test case and just as effective.
5. Special cases and edge cases.

And when you find bugs, **fix them carefully!**

Focus on Algorithm and Data Structures
Explain your solution
KEEP TALKING

When you get stuck

- Go back to an example
- Try a different data structure
- Consider the less commonly used or more advanced aspects of a language.

Other Considerations:

- Best Conceivable Runtime
- Handling Incorrect Answers
- When You've Heard the Question Before
- The "Perfect" Language for Interviews
- What Good Code Looks like
- Don't Give Up



How to Prepare for the Coding Interview* (Roadmap later)

- ***Use the resources in CSC2703H on Quercus (lots of interview videos)**
- Review “Algorithms and Data structures” undergraduate courses
 - “Introduction to Algorithms”, Third Edition, By Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein
- Area-Specific knowledge (math such as linalg or stats, ML, DB, Algo)
- Read the book “Cracking the Coding Interview”
- Practice on medium difficulty problems
 - Leetcode (Quercus - CSC2703H)
 - www.hackerrank.com/domains/algorithms
 - arena.topcoder.com
- Practice coding from scratch: coderpad.io/demo (both its left-side and right-side panes)



Preparation Road Map

Before you arrived

Summer Semester, Fall Semester

ONE MONTH AWAY!!!

The BIG DAY

McDowell, Gayle Laakmann. [Cracking the coding interview](#): 189 programming questions and solutions. CareerCup, LLC, 2015.

Interview Preparation Road Map

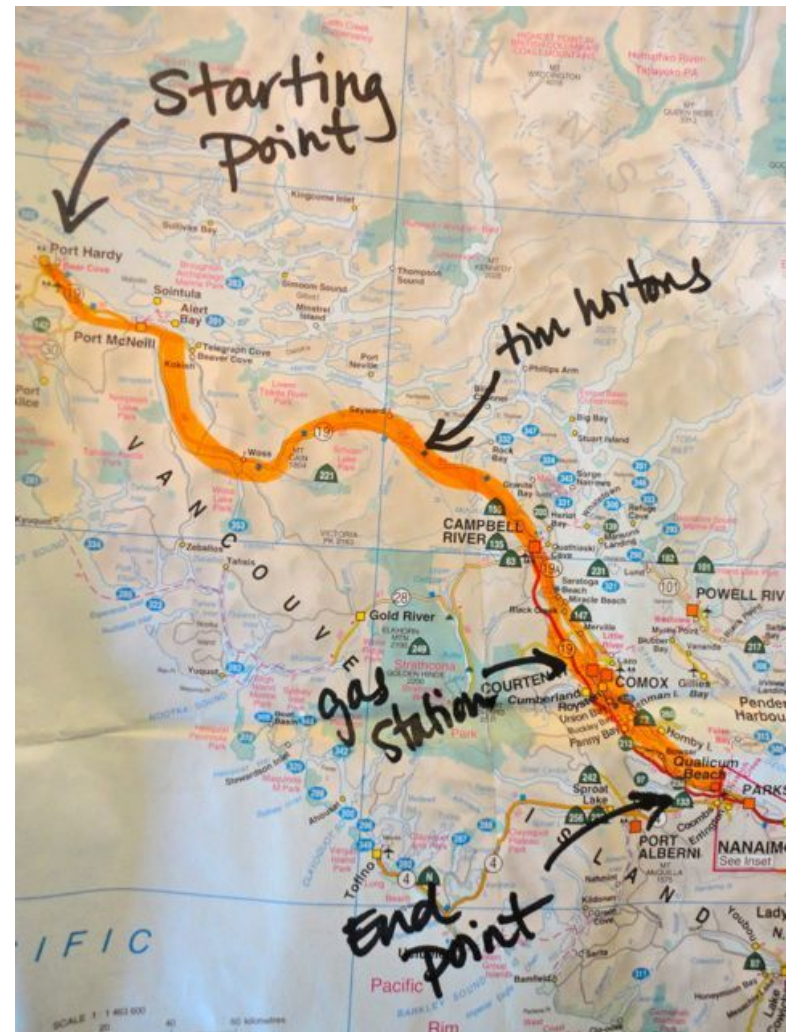


* While this is the timeline for projects via MScAC, students should also be looking at other opportunities/arranging interviews themselves, especially if interests are very niche.

Before you arrived here...

1 year plus

- Build project outside school/work
- Learn multiple programming languages
- Expand network
- Build online portfolio and profile
- Take classes with Large projects and Focus work on “meaty” projects



Summer Semester, Fall Semester

3-12 months (i.e. Now-November)

- Create draft of **resume** and send out for resume review
- Make target list of preferred **companies**
- Learn and Master **Big O**
- Implement **data structures and algorithms** from scratch
- Form **mock interview groups** with friends to interview with each other

1-3 months *(i.e. Nov-Jan)

- Do **mini-projects** to solidify understanding of key concepts
- Do several **mock interviews**
- Make sure you can explain projects on your resume
- Continue to **practice interview questions**
- Create list to **track mistakes** you've made solving problems

ONE MONTH AWAY!!!

4 weeks (Dec/Jan)

- Review/update **resume**
- Begin **applying** to companies
- Create **interview preparation grid**
- Do another **mock interview**
- Continue to **practice questions, writing code on paper**

1 week (Jan)

- **Online interview prep:** headset, camera
- Do **final mock** interview
- **Rehearse stories** from interview preparation grid
- **Re-read algorithm** approaches
- **Re-read big-O** section
- Continue to **practice interview** questions

The BIG DAY

Day before

- Rehearse each story from interview preparation grid once
- Continue to practice questions and review your list of mistakes
- Review powers of 2 table, print for screen interview

Day of

- Wake up in plenty of time to eat a good breakfast and BE ON TIME
- Be confident BUT NOT COCKY
- Remember to talk out loud, show how you think
- Don't forget: stumbling and struggling is normal

It's not over yet

After


- Write thank-you note to the interviewer
- If you haven't heard back, check-in after one week
- Get an offer? Celebrate, your hard work paid off



That's All

Good Luck with your Job Hunt!

Networking



Martin Garneau
Technical Recruiter


Can we chat over coffee?

Hi,

I have experience as a data analyst and would like to know if you're hiring for this type of role.

Can I take you out for a coffee sometime? It would be great to chat further.

Lisa



Martin Garneau
Technical Recruiter

Healthcare data analyst passionate about conversational AI

Hi Martin,

I am a recent AI graduate with a specialization in healthcare and am interested in the customer-focused data analyst role you're hiring for.

I have spent the last 3 years on a research team that focuses specifically on developing NLP models for conversational AI in healthcare. I trained over 25 health specific models and worked directly with doctors to refine the models. My skills working with users and developing NLP models will add a lot of value.

Resume: www.resume.com
Portfolio: www.portfolio.com

Thanks for your consideration,
Lisa

+1 416-222-1100

More Books...Google is your Friend

- ***Quercus - CSC2703H The Internship has a lot of resources**
- McDowell, Gayle Laakmann. [Cracking the coding interview](#): 189 programming questions and solutions. CareerCup, LLC, 2015.
- Mongan, John, Noah Suojanen Kindler, and Eric Giguère. [Programming Interviews Exposed: Coding Your Way Through the Interview](#). John Wiley & Sons, 2018.
- [Acing Data & AI Interviews](#), Vector Institute, Mar 25, 2021
- [Accelerating Your Career Via Your Online Presence](#), Phase AI, Vector Institute, Feb 18, 2021
- Bolles, Richard Nelson. The 2009 [what color is your parachute?](#): a practical manual for job-hunters and career-changers. Random House Digital, Inc., 2009.





Image source: big4careerlab

Situational/hypothetical questions

Skill-testing questions

Problem-solving questions

Case-Study Interviews

Classic questions

Being stumped

Negative questions

Having never worked or no recent work experience

Silence or Note-taking

BREAK?