



The World of Work

Navigating the Tech Job Market in **2021**

Major Changes From Last Year

- Thoughts on UTSC's coop
- Update salaries (added new grad salaries as well)
- Updated the companies on the graphic
- UTSC's courses and how they can help w/ resume
- Additional technical interview prep resources
- More tips for behavioural



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What are Internships?

Perks, Programs, and Paths

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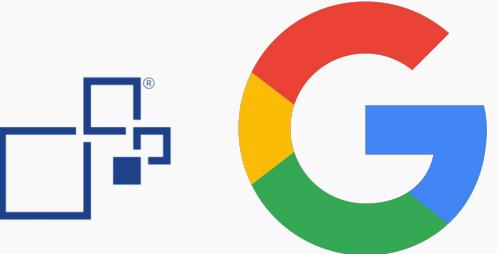


Our Guest Panelists



Nyah W.

Rakuten



Charmaine Y.



Raymond C.



Daniel W.



robinhood

CITADEL



Keshavaa S.



Tabeeb Y.



What are internships?

Internships are official programs offered by an employer to potential employees.

- Includes technical work ranging from:
 - Software Engineering
 - Quality Assurance
 - R&D on bleeding edge technology.
 - etc.
- usually **3-4 months** long

All Canadian internships must be paid.

Think about an internship as a **preview** or **demo** of your abilities and fit with your employer. If you do well enough, you may receive a **full-time offer!**





Internship Types

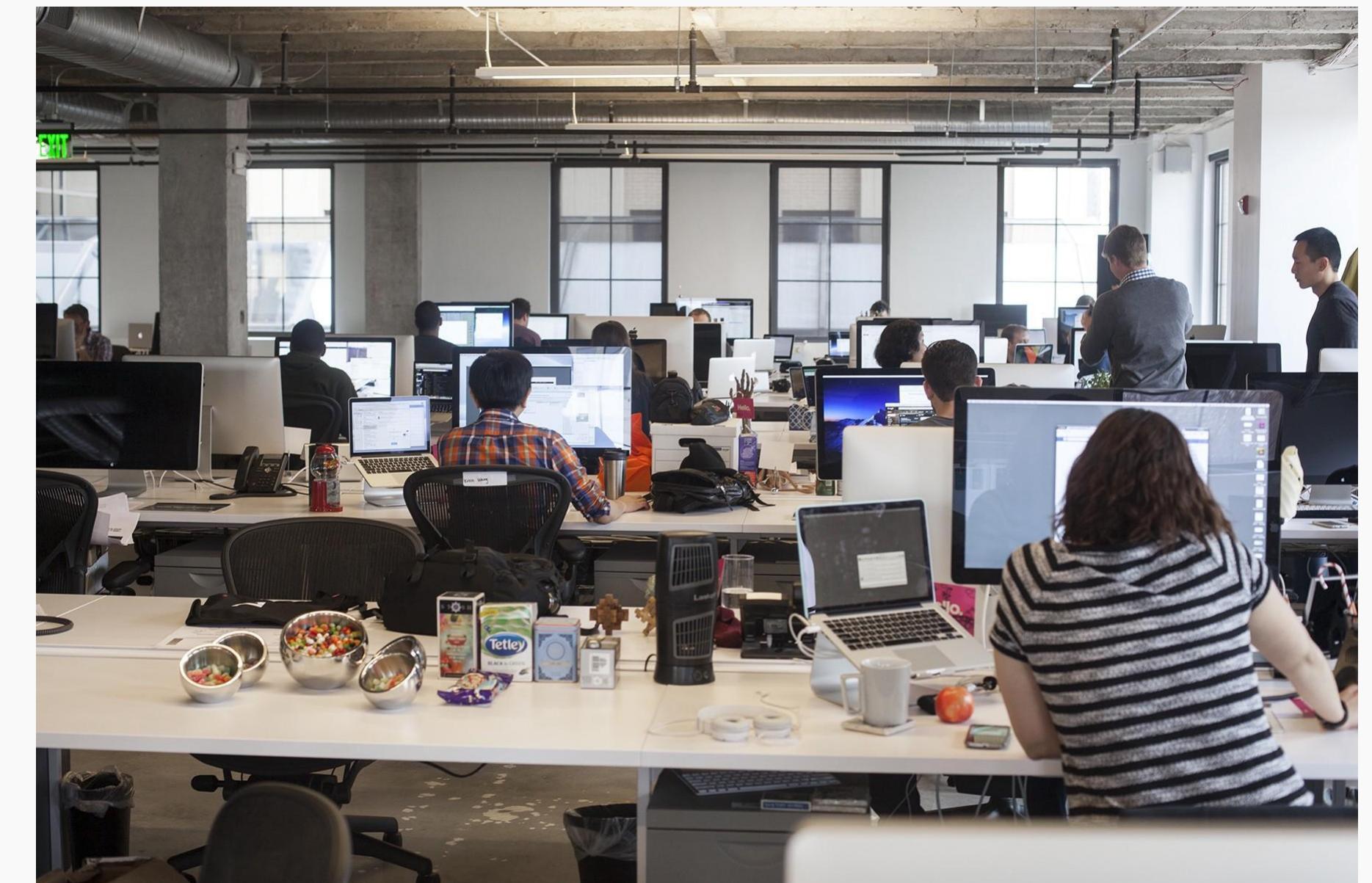
Internships are **fairly short**, meaning that the intern often doesn't have the time to ramp up and contribute at the same pace as full-time employees.

Some companies do **Project-based** internships,

- Intern is assigned projects (usually isolated) that provide value to the company (infrastructure, tools, etc.)

Other companies do **Team-based** internships,

- interns join a team as a full individual contributor and run through tickets and tasks like full-time employees to get a feel for the team and work.



Internship Programs

First and Second Year students can look for programs that promote learning and exploration.

- Check out **Google STEP, Microsoft Explore, Facebook University Twitter Academy + more!**

Third and Fourth Year students are in high demand! Most internships look for upper year students so they can secure talent and offer conversions for interns.

Masters and Postgrad students have a lot of opportunities too!

- Most companies have R&D sectors, such as X for Google
- Most **Machine Learning / Computer Vision / Deep Learning** positions also only consider postgraduate students for internships.



Internship Career Paths



Technical
Writer



Software
Engineer



Quality
Analyst



Product
Manager



Data
Scientist



DevOps
/ SRE

+ more...

PEY vs Co-op vs Summer Internship

Professional Experience Year (PEY) UTSG, UTM, UTSC	Co-op Program UTSC, UW, UBC, McMaster, etc.	External Internship All Universities
12 - 16 months	4 months	3 - 4 months
Offered by select companies	Offered by select companies	Offered by most companies
Year round recruiting	Summer/Fall/Winter Terms	Summer/Fall/Winter
More in-depth but less breadth Small amount of competition	More breadth but less in-depth Moderate competition	More breadth but less in-depth Very competitive

Brian's Thoughts on UTSC's Co-op program: <https://gist.github.com/byxchen/f1d3eef6fd5d49bf0c8c14c6aca3d236>

UTSC's Co-op Program

Brian's thoughts: <https://gist.github.com/byxchen/f1d3eef6fd5d49bf0c8c14c6aca3d236>

- Good program, was a bit outdated but making major strides
- No big blow-your-socks-off name companies, but good consistency & a lot of great selection
- PEY for long term experience, co-op/internships (he recommends) for variety
- Co-op is great if you “think you are an average student”

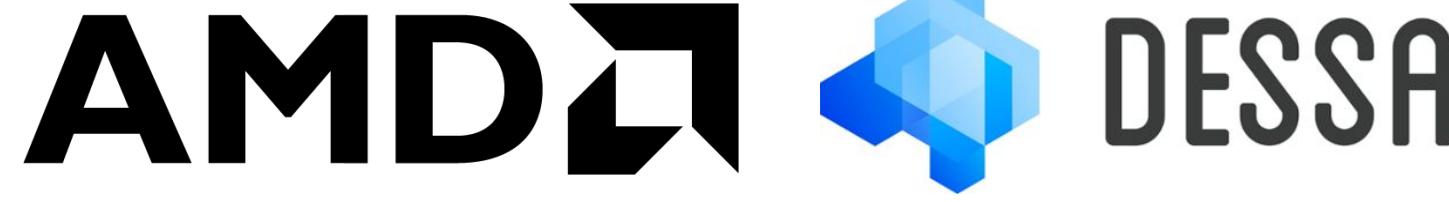
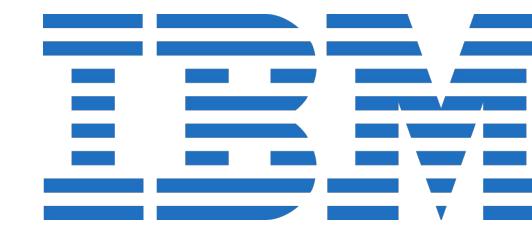
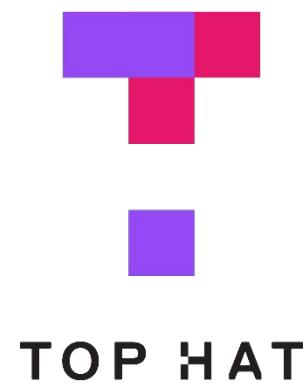
My (Tabeeb's) opinion:

- Great for getting your foot in the door with no experience as it's much easier to get interviews off of the co-op portal than externally, my first job was from the co-op portal
- **Worth considering:** Co-op costs an additional \$600-700 per semester which can add up to ~\$4.5K overall

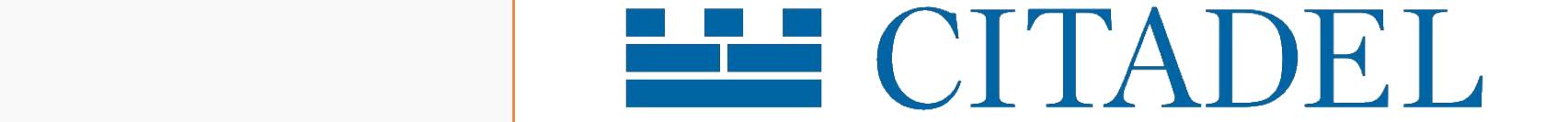
| **The Data from the next few
slides are pulled from:**

- <https://www.levels.fyi/>
- <https://www.levels.fyi/internships>
- <https://www.glassdoor.ca/>

Classifying Companies



Local Internships



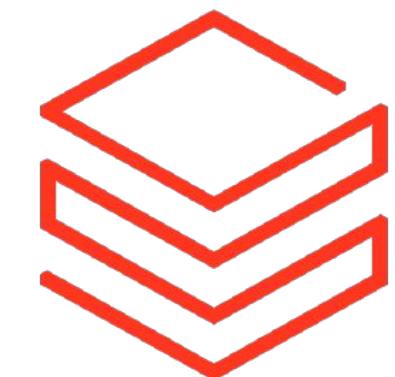
Hedge Funds/Quant Firms



Big N Companies



asana



ROBLOX



CONFLUENT



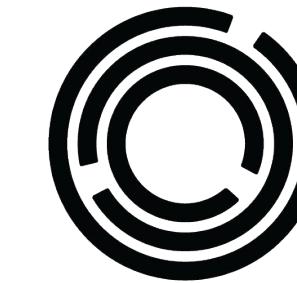
stripe



(ex) Unicorn Companies

Classifying Companies

CITADEL



Jane Street



TWO SIGMA

HRT

Hedge Funds/Quant Firms

finexy

\$4K-6K
CAD/month

TOP HAT

\$70K-100K
CAD/year (new-grad)



amazon

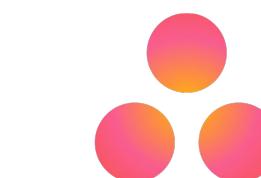


Dropbox

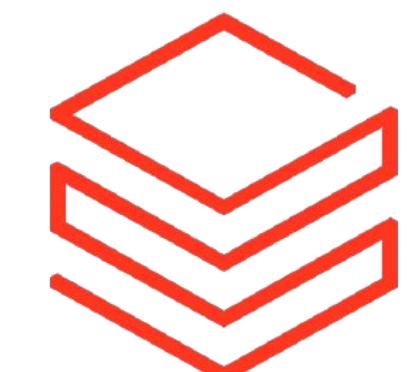


Big N Companies

nuro



asana



ROBLOX



CONFLUENT

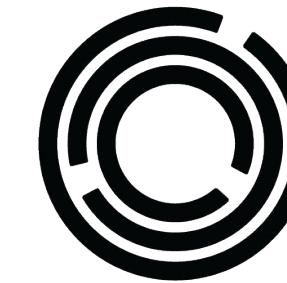


stripe



(ex) Unicorn Companies

Classifying Companies



Jane Street



HRT

Hedge Funds/Quant Firms

\$4K-6K
CAD/month

TOP HAT

\$70K-100K
CAD/year (new-grad)

Big IV Companies

\$7K+
CAD/month

\$130K+
CAD/year
(new-grad, salary+stock/options+bonus)

Big IV Companies

\$9K+
USD/month

\$190K+
USD/year
(ex) Unicorn Companies

(ex) Unicorn Companies

Classifying Companies

\$15K+
USD/month

\$300K+
USD/year
(Salary + bonuses)

Hedge Funds/Quant Firms

\$4K-6K
CAD/month

\$7K+
CAD/month

\$9K+
USD/month

\$70K-100K
CAD/year (new-grad)

\$130K+
CAD/year
(new-grad, salary+stock/options+bonus)

\$190K+
USD/year
(ex) Unicorn Companies

finra, iify, TOP HAT, REVERB

Facebook, LinkedIn, Netflix, CONFLUENT

nuro, Box, Brex

big IV companies

big IV companies

(ex) Unicorn Companies

| Canadian Internship Typical Payscale

\$18 - 22

CAD/hr

First Internship
1st or 2nd Year

\$20 - 24

CAD/hr

2nd - 3rd Internship
2nd or 3rd Year

\$24 - 35

CAD/hr

3rd - 4th Internship
3rd or 4th Year

This is based on typical co-op payscale from companies such as banks. However, this is not a complete representation and there are a lot of companies that do not follow this scale.

| Salaries across Canadian Internships

\$18 - 22
CAD/hr

\$24 - 30
CAD/hr

\$30 - 50
CAD/hr

Follows Co-op pay scale*

Banks



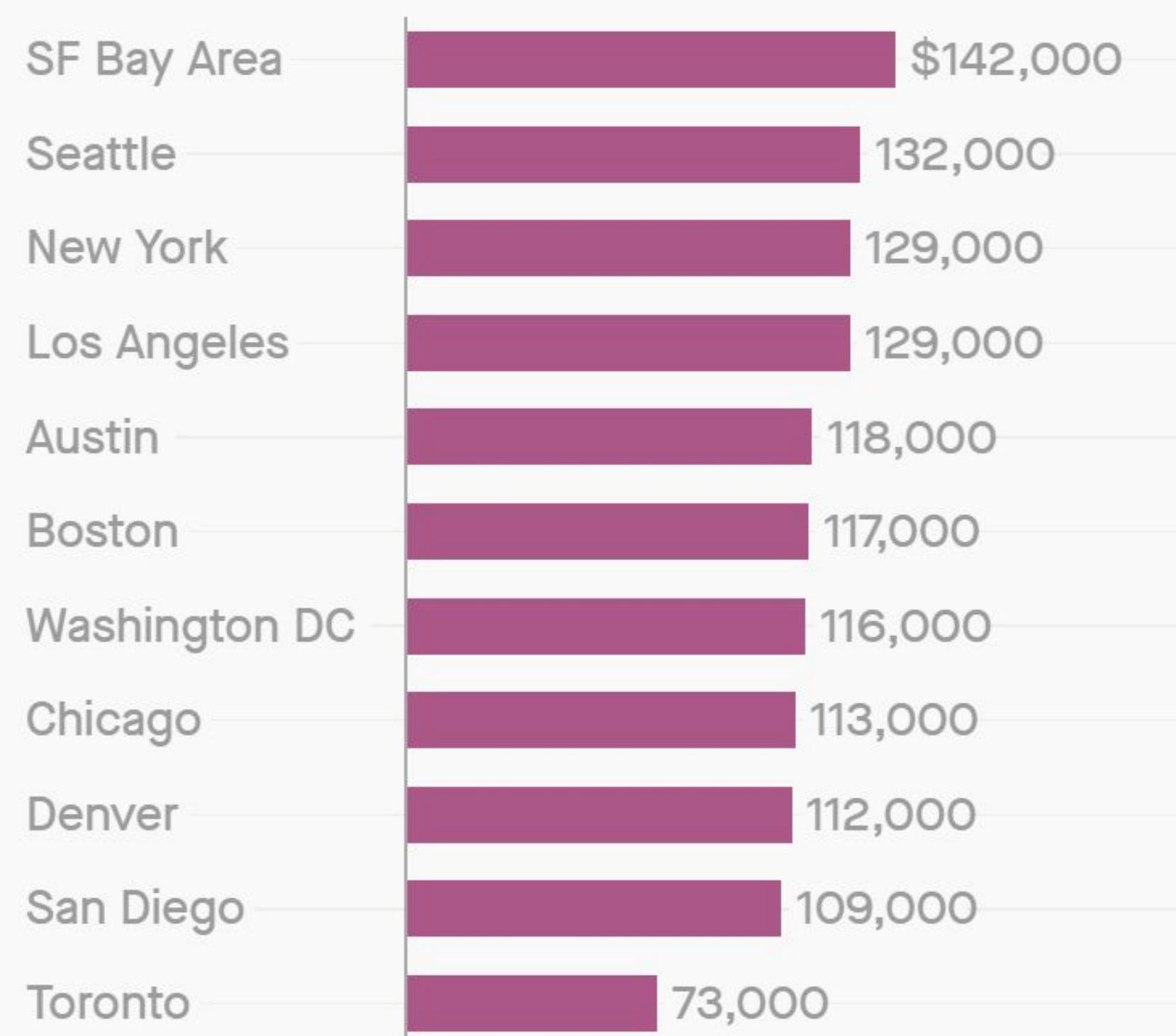
Government Agencies

Enterprise Tech

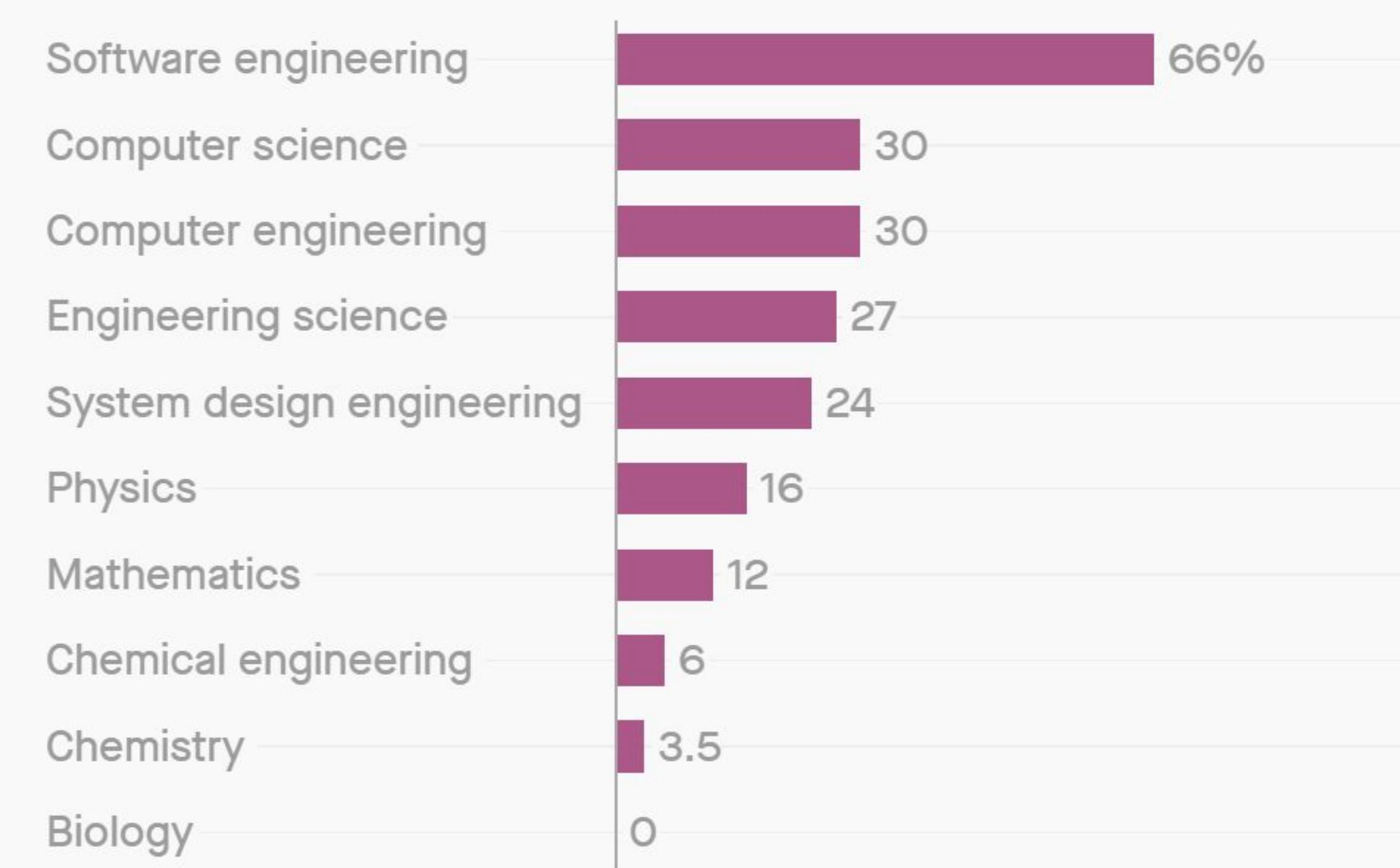


Canada's Brain Drain

Average tech salaries in North American cities



Percentage of Canadian STEM graduates leaving Canada, by major



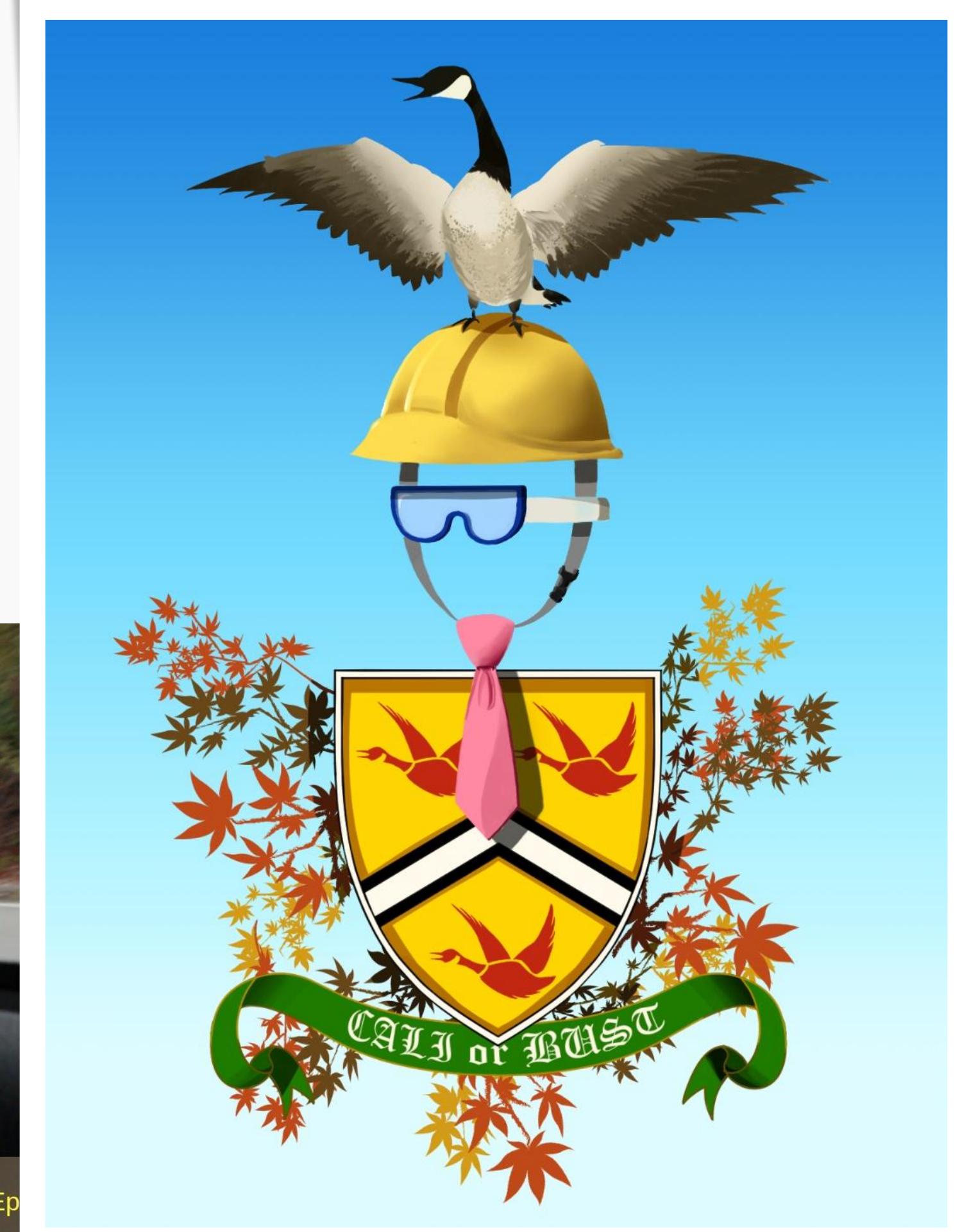


OR



David Kowal ▶ University of Waterloo Class of 2022,
Frosh 2017
1 hr ·

gauging interest for CaliOrBust stickers
message if interested



cali or bust Yesterday at 9:32 PM
hello
currently busting tbh

Cali or Bust Syndrome

Cali or Bust is a saying where if you “don’t make it to California” on one of your co-ops, you’ve failed. This creates a **fear of missing out** (FOMO) amongst many.

This is an **toxic** way of thinking about job searching – don’t get caught up in this mentality! There are great learning opportunities at every company, and just because you’re at a large company doesn’t mean you’re doing meaningful work.

If you’re feeling anxiety about job prospects, or are otherwise distressed, **please seek help and support** from your friend group and the professional community.

“Cali Jobs are just regular jobs but in California”

- Unknown, 2019

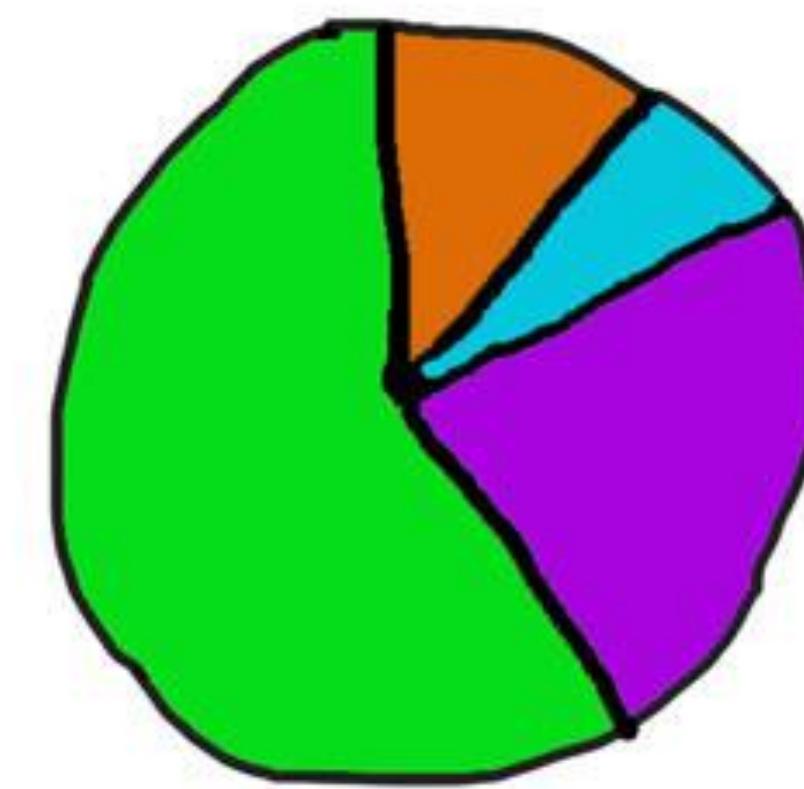
Impostor Syndrome

A lot of candidates experience severe **Impostor Syndrome** when starting the job search – they're afraid they're not qualified, wasting the company's time, not worth their pay, etc.

People experience impostor syndrome all the time. Impostor syndrome can occur:

- Writing your resume
- During job applications
- During interviews
- After they get the offer
- When they're actually working
- After the internship's done

YOUR THOUGHTS WHEN SOMEONE SAYS THAT YOU WOULD BE GOOD FOR A JOB/ROLE/TEAM:



- WHAT?
- WHY?
- HAVE YOU MET ME?
- MAYBE THEY'RE JUST TRYING TO BE NICE

Impostor Syndrome

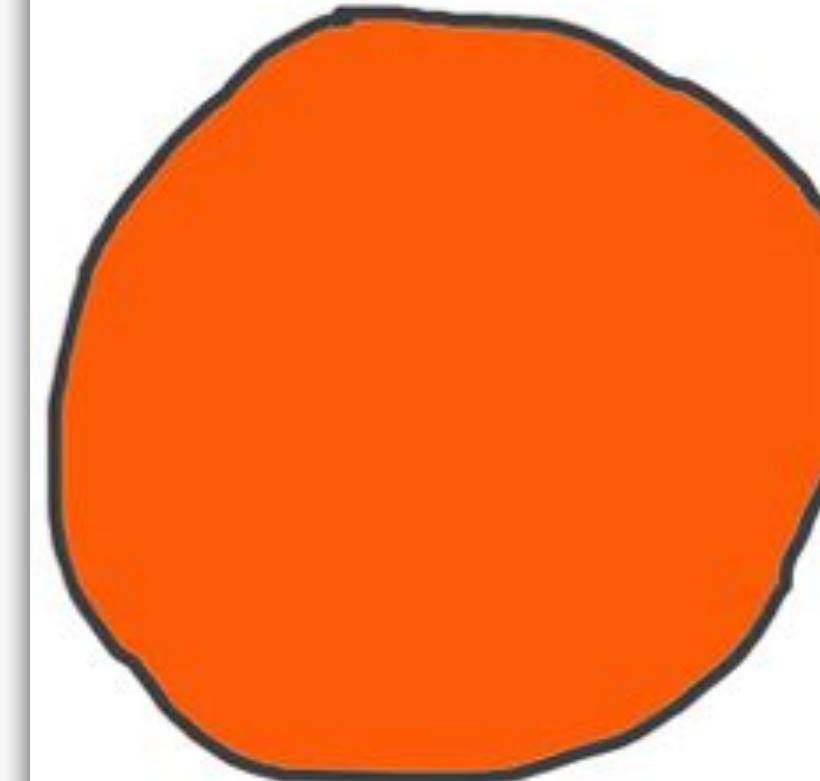
Internships in particular are very forgiving.
Always keep in mind that:

- Job qualifications are a **wish list**
- Interns only need to be **quick to learn** and eager to improve
- Expectations for intern contributions are usually fairly low
- The worst that can happen is a rejection, a flunked interview, or no return offer

And finally...

You're better than you think

TYPES OF PEOPLE WHO CAN
HAVE IMPOSTOR SYNDROME:



- ALL THE SMART, SUCCESSFUL PEOPLE THAT YOU THINK HAVE THEIR SHIT TOGETHER

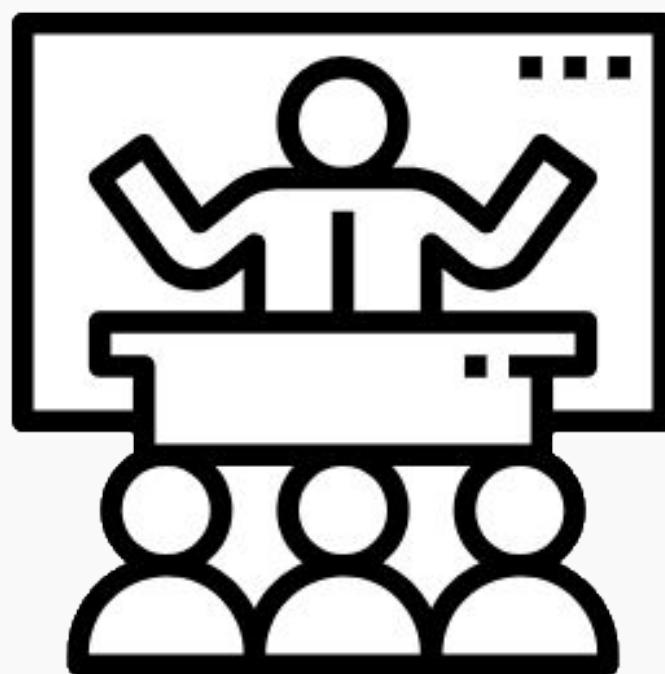
Looking for Opportunities



Employee
Referrals



LinkedIn and
Recruiters



Career
Fairs



Applying
Online

Technical Recruiting Process

RESUME SCREEN

1



**CODING
CHALLENGE**

**TECHNICAL
INTERVIEWS**

3



OFFER!

4

**BEHAVIORAL
CULTURAL FIT
EXPECTATIONS**

5



The Resume Screen

Order of Importance

- Relevant Experience
- Projects
- Education
- Technical Skills
- Awards
- Irrelevant Experience

Order on Resume

- Education/Awards
- Relevant Experience
- Technical Skills
- Projects
- Other

Cover letters? Pointless most of the time.

- Generally don't get read

John Doe

Email • Phone Number • City, State • LinkedIn • Github

EDUCATION

University Name

B.S. in Computer Science

- Current Cumulative GPA: 3.90
- Awards: [University Name] Dean's List (Fall 2014 – Present)

December 2018

City, State

PROJECTS

Project 1 Name

Summer 2018

An interval timer Android application

- Programmed an interval timer so that when people are exercising/playing games, they can easily switch from exercising/playing and taking breaks
- Developed buttons that can pause/resume the timer and cancel the timer
- Skills Used: Java, XML, Android Studio

Project 2 Name

Spring 2018

A search engine web application

- Programmed a search engine that displays a list of websites based on the search query the user types in
 - Websites where the search term(s) appear more frequently are ranked above others
 - For locations that have the same frequency of search term(s), locations where the words appear in earlier positions are ranked above others
 - For locations that have the same frequency and position, the results are sorted by URL in case-insensitive order
- Skills Used: Java, Jetty, HTML, CSS, JavaScript, MySQL

Project 3 Name

Spring 2018

A custom version of a Linux command line shell

- Able to run built-in commands as well as commands in both the current directory and those in the PATH environment variable
- Tracks how long each process runs while executing a command and makes this information available in the history
- Skills Used: C

Project 4 Name

Spring 2018

A Unix command line utility that recursively searches for matching file names

- Programmed a Unix tool that finds and displays the filenames present in a directory that partially or exactly match the search term(s) the user types in
- Skills Used: C

SKILLS

- Programming/Markup Languages: Java, Python, C, HTML, CSS, XML, JavaScript, MS SQL Server, MySQL, Octave
- Tools, Technologies, Frameworks: Jetty, Android Studio, Subversion, Git, React

VOLUNTEER EXPERIENCE

Non-profit Organization Name

September 2016 – December 2016

Food Server

City, State

- Served 1000+ meals to the homeless
- Constantly interacted with kitchen staff, other servers, and customers in order to provide quality service

The Resume Screen

Often the screen that eliminates the most candidates. Here's a few tips:

- **GPA is optional** – consider removing if below 3.0 (also Major vs Cumulative)
- **Projects are important!** If you've created anything during project classes (CSCB07, B09, B58, C01, D01, etc.) put it on your resume!
- **Portfolio Website** - if you have one, put it on! They do get looked at and effort put will get noticed!
- **Quantify your work!** Instead of saying 'increased efficiency', say something like 'increased efficiency by 40%'
- **Make it readable!** Play with fonts, margins, avoid bolding too much in descriptions.
- **DOUBLE CHECK YOUR WORK!** Check for spelling, grammar, and proper nouns

Consider joining our discord (csec.club/discord) for Resume Reviews!
r/EngineeringResumes r/cscareerquestions weekly resume thread

But What if I don't have Experience? :(

UTSC can help!

- **Work Studies** – Developer, QA, testing, research roles, and more available!
- **TAShips** – Companies love it, you practice explaining technical concepts, get to help students, make some cash and it's fun!
- **Hackathons & Coding Competitions** – Hack the Valley, Hack the North, ICPC
 - Winners can get interviews from sponsoring companies, or you can use it as networking
- **Projects!**
 - Try solving a problem you have
 - Follow online tutorials
 - **Course Projects** (ideally collaborative and open-ended)
 - **General:** B07, C01, D01
 - **Low-level/OS:** B09, C69
 - **Full-stack Web:** B20, C09
 - **Embedded/Hardware:** B58, C85
 - **ML: C11, AI: D84, Graphics:** D18

But What if I don't have Experience? :(

Check out Raymond's First Job Search Seminar coming up in the next few weeks!

The Coding Challenge

Coding Challenges are programming tests that companies often issue to candidates. These are usually through **HackerRank, Codesignal, Codility**.

You're given a time limit (usually 1h-3h) to solve several algorithmic questions. Your solution must compile and solve their test cases. You can use almost any language!

You can get practice with these questions through **LeetCode, HackerRank**, and **Coding Competitions**

Fundamental UTSC Courses: A08, A48, B63, C73

- A48 knowledge is sufficient for a large chunk of coding challenges/interviews!!

The screenshot shows a coding challenge interface from HackerRank. At the top, there's a navigation bar with a green 'H' logo, 'Sample Test', a timer showing '29m to test end', and a progress bar indicating '0/3 Attempted'. On the left, a sidebar has three numbered steps: 1, 2, and 3. Step 1 is highlighted with a green circle.

Find the number!

Given an unsorted array of n elements, find if the element k is present in the array or not. Complete the `findNumber` function in the editor below. It has 2 parameters:

1. An array of integers, arr , denoting the elements in the array.
2. An integer, k , denoting the element to be searched in the array.

The function must return a string "YES" or "NO" denoting if the element is present in the array or not.

Input Format

The first line contains an integer n , denoting the number of elements in the array arr . Each line i of the n subsequent lines (where $0 \leq i < n$) contains an integer describing arr_i . The next line contains an integer, k , the element that needs to be searched.

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq arr[i] \leq 10^9$

Output Format

The function must return a string "YES" or "NO" denoting if the element is present in the array or not. This is printed to stdout by locked stub code in the editor.

Sample Input 0

```
5
1
2
3
4
5
1
```

Sample Output 0

```
YES
```

The Technical Interviews

Technical Interviews are the main component of the interview process! Be ready to jump into a call with an engineer and solve some problems! These interviews can be via **phone or video call**, and often are **45m - 60m** long

Time	Event
5m	Introduction, about Interviewer, about Company
5 – 10m	Past Experiences and Projects
20 – 40m	Coding Problem(s) done via collaborative editors (HackerRank, TitanPad, CodePad)
10m	Solution Analysis correctness, space/time analysis and trade-offs, design choices, improvements
10m	Questions and Next Steps

Resources

What Questions To Study?

- [Article About Coding Interview Patterns](#)
 - Alternatively, check out: **Grokking the Coding Interview** on educative.io for a paid resource
- [List of 75 Curated Interview Qs from a FB Engineer](#)
 - Warning: kinda tough to go through if you are new
- [Sean Prashad's leetcode patterns, a more comprehensive list](#)
- YouTube channels: [BackToBackSWE](#), [NeetCode](#), [babbybear4812](#), [Sai Anish Malla](#)

Note: You don't need to focus heavily on coding interviews for local internships. For local, focus more on Object Oriented Program/Design concepts, explain your projects and your experience.

Behavioural / Background Interviews

Behavioural Interviews may be done before or after technical ones. These can come in many forms:

- Talk with future manager/ team lead about technical skills and preferred work
- Questions about leadership, teamwork, collaboration, conflict resolution, project management, and other soft skills
- Discussing your values and if they align with the company's values and principle, e.g. Amazon's leadership principles



Tips for Behavioural / Background Interviews

- At the very minimum you should have the answers to:
 - **Tell Me About Yourself**
 - **Why <Company>,**
 - **What did you do at your last internship** (if you have one)
- Know your projects inside out
 - Why was the project important/needed?
 - What other approaches did you have?
 - What you have done differently?
 - What was challenging?
 - How was it tested?
 - What was the impact?
 - Try to have at 1-2 collaborative projects
- **Situation Task Action Result** for answering scenario questions



The Offer

You've gotten an offer!
Congratulations!

Things to keep in mind:

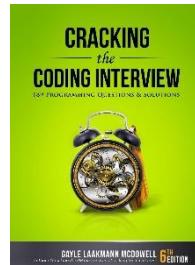
- **Compensation** is it a fair market rate?
- **Duration** how long is the internship?
- **Benefits** what kind of perks does it have?
- **Commute** how far away is it?
- **Conversion Program** are full-time roles offered to interns?
- **Mentorship** how will interns be trained and onboarded?
- **Feedback and Growth** how will the intern be evaluated and given feedback?
- **Visa Sponsorship** if in a country foreign to Canada
- **Response Deadline** how long do you have to decide?

Helpful Resources

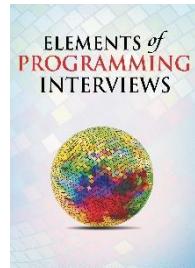
Algorithmic Problems



Prep Books



Cracking the
Coding Interview



Elements of
Programming
Interviews

Interview Preparation



Pramp



Pramp - Practice
Interviewing Online!

Mock Interviews -
Practice with a friend!

Company Reviews



Glassdoor

Glassdoor - Company
Insights and salary

InternCompass

InternCompass -
Intern program review
and salary/perks

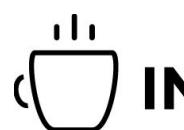
Reddit Communities



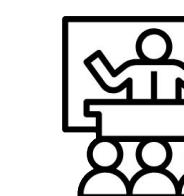
CSCAREERQUESTIONS



Job Searching



INTERN SUPPLY



intern.supply

LinkedIn and Referrals

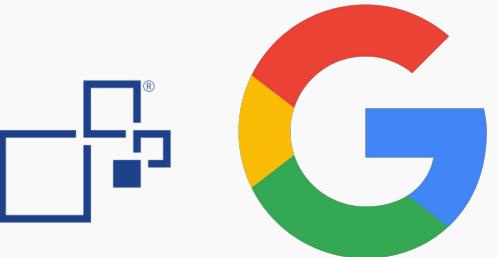
Career Fairs!

Our Guest Panelists



Nyah W.

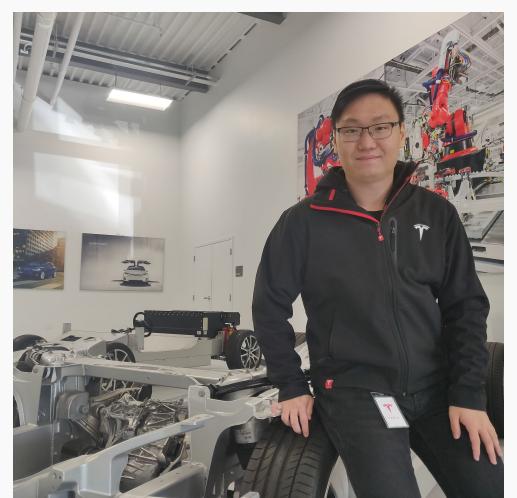
Rakuten



Charmaine Y.



Raymond C.



Daniel W.



robinhood

CITADEL



Keshavaa S.



Tabeeb Y.



robinhood