



# THE WORLD OF WORK

Navigating the Tech Job Market in **2019**

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Perks, Programs, and Paths

*PEY vs Internships vs Co-op*

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# What are internships?

**Internships** are official programs offered by an employer to potential employees. They include technical work ranging from Software Engineering to Quality Assurance to R&D on bleeding edge technology.

They are usually **3-4 months** in length, and require the candidate to be returning to school after completion of the internship.

**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!**



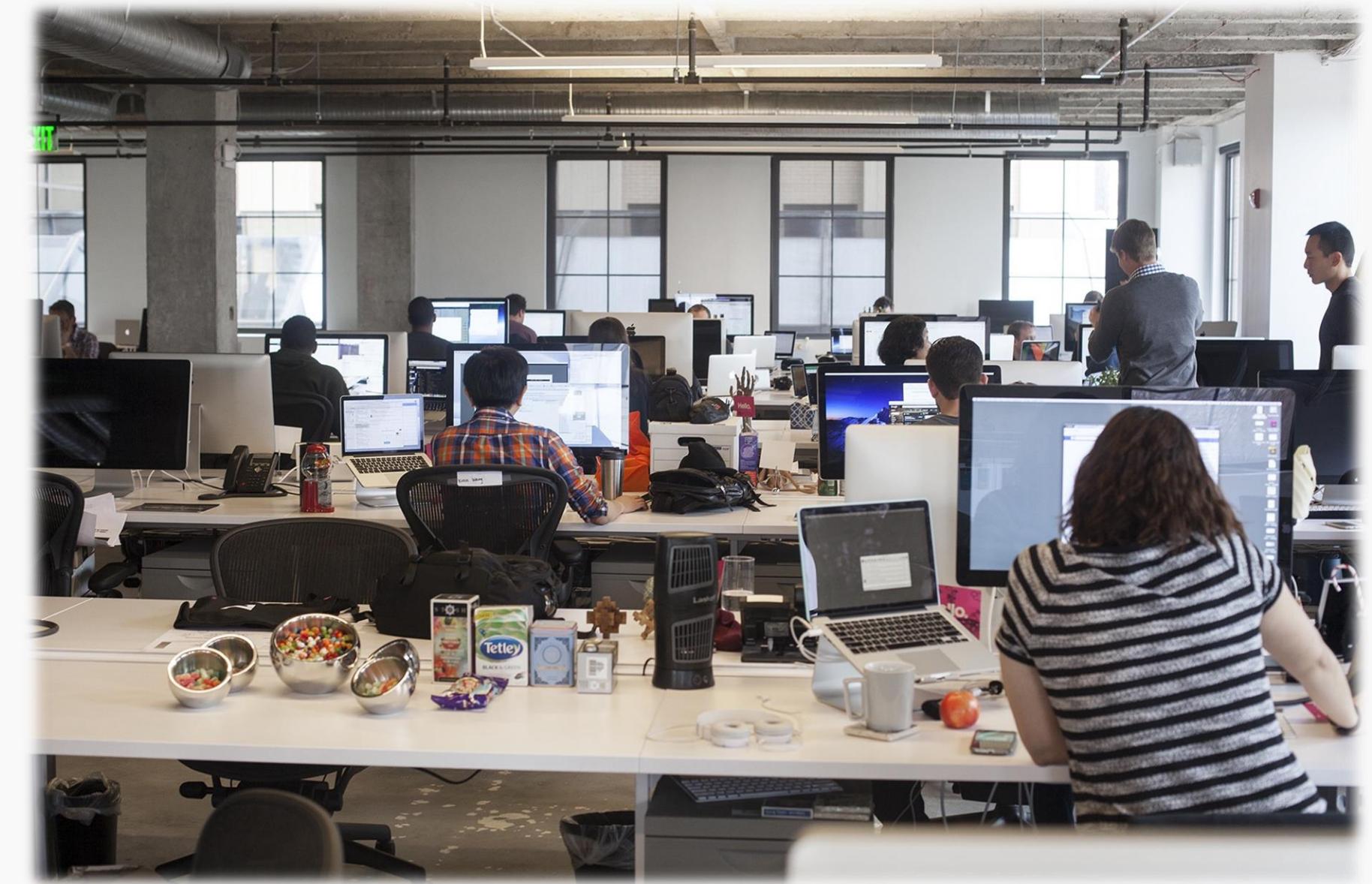


# Internship Types

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, which an intern is assigned to a project to deliver on. These are usually isolated projects that provide value to the company (infrastructure, tools, etc.)

Other companies do **Team-based** internships, where 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** Engineering Practicum, **Microsoft** Explore, **Palantir** Path, and **Amazon** Future Engineer + 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. Apply everywhere!

**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  
Engineer

+ more...

# PEY

# Summer

# Co-op

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

# Classifying Companies

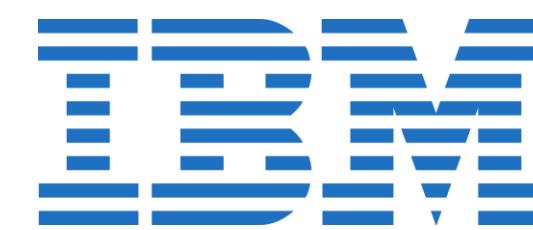
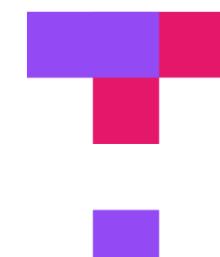
CITADEL

2 $\sigma$  TWO SIGMA

Jane Street

BLACKROCK

Hedge Funds/Quant Firms



DESSA

Local Internships



Bloomberg

Dropbox



Big N Companies

wework



Palantir

stripe



Unicorn Companies

# Classifying Companies



\$3,000  
CAD/month



Local Internships



BLACKROCK

Hedge Funds/Quant Firms



amazon



Bloomberg



Big N Companies

wework



Palantir

stripe



Unicorn Companies

# Classifying Companies

CITADEL

2 $\sigma$  TWO SIGMA

Jane Street

BLACKROCK

Hedge Funds/Quant Firms



shopify

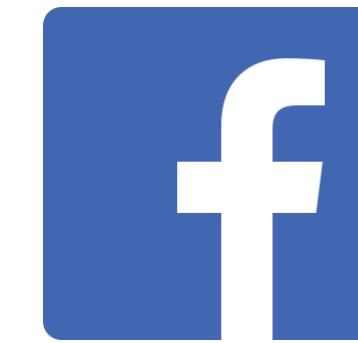
\$3,000  
CAD/month

AMD



DESSA

Local Internships



\$7,500  
USD/month

Dropbox



stripe



robinhood

Big N Companies

Unicorn Companies

# Classifying Companies



\$12,000  
USD/month

Street  
Rock

Hedge Funds/Quant Firms



\$3,000  
CAD/month



Local Internships



\$7,500  
USD/month



Dropbox



stripe



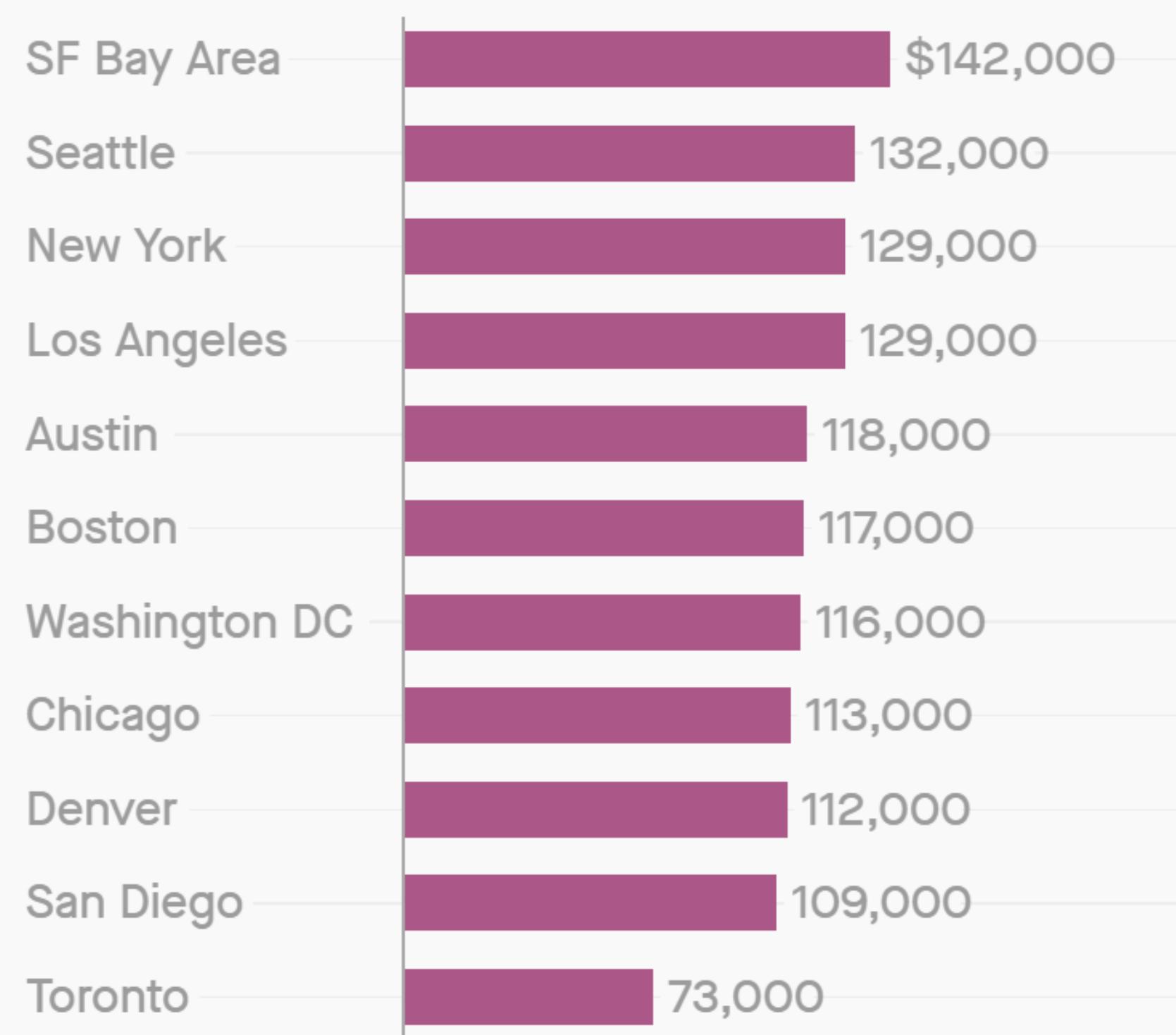
robinhood

Big N Companies

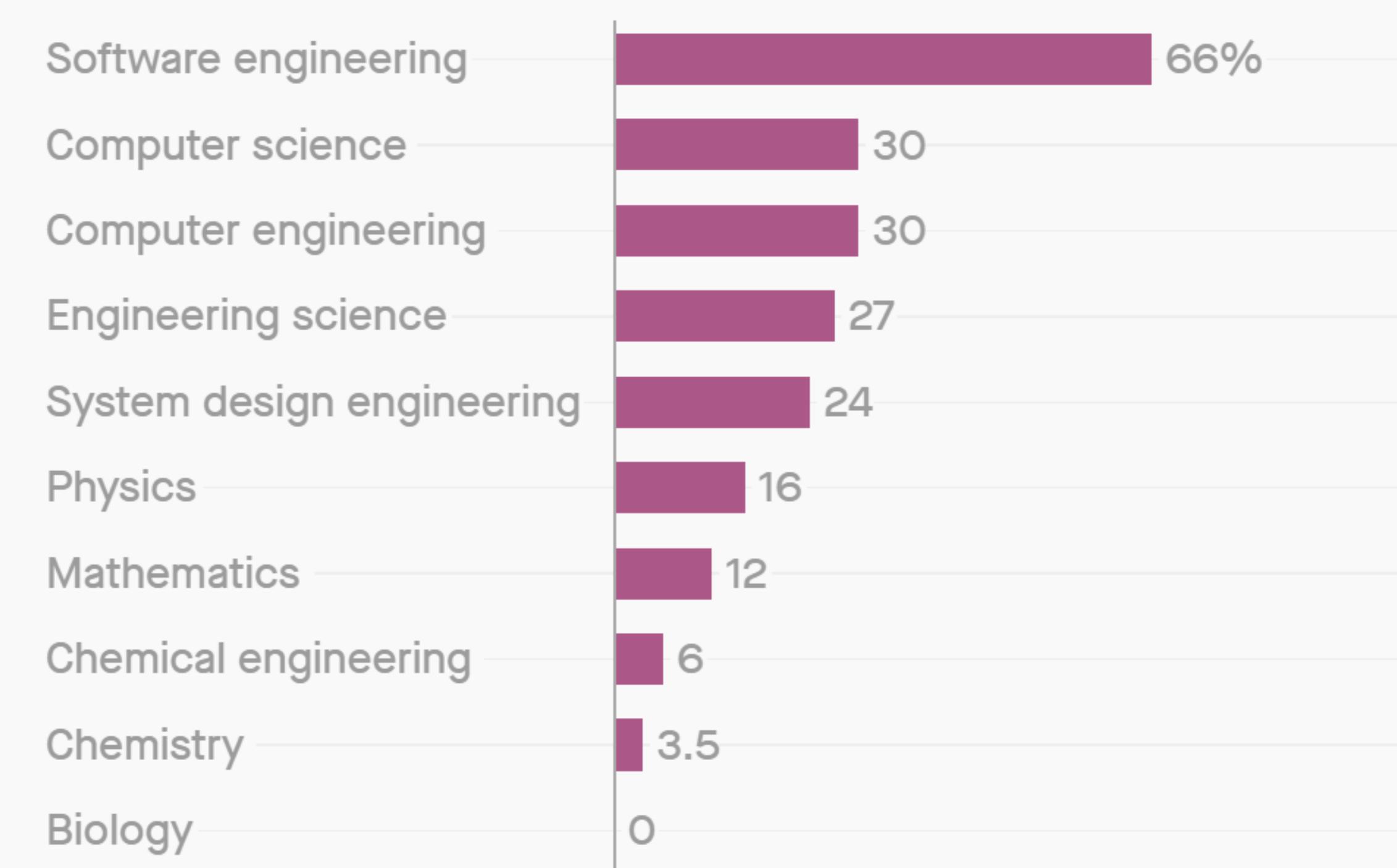
Unicorn Companies

# Canada's Brain Drain

Average tech salaries in North American cities



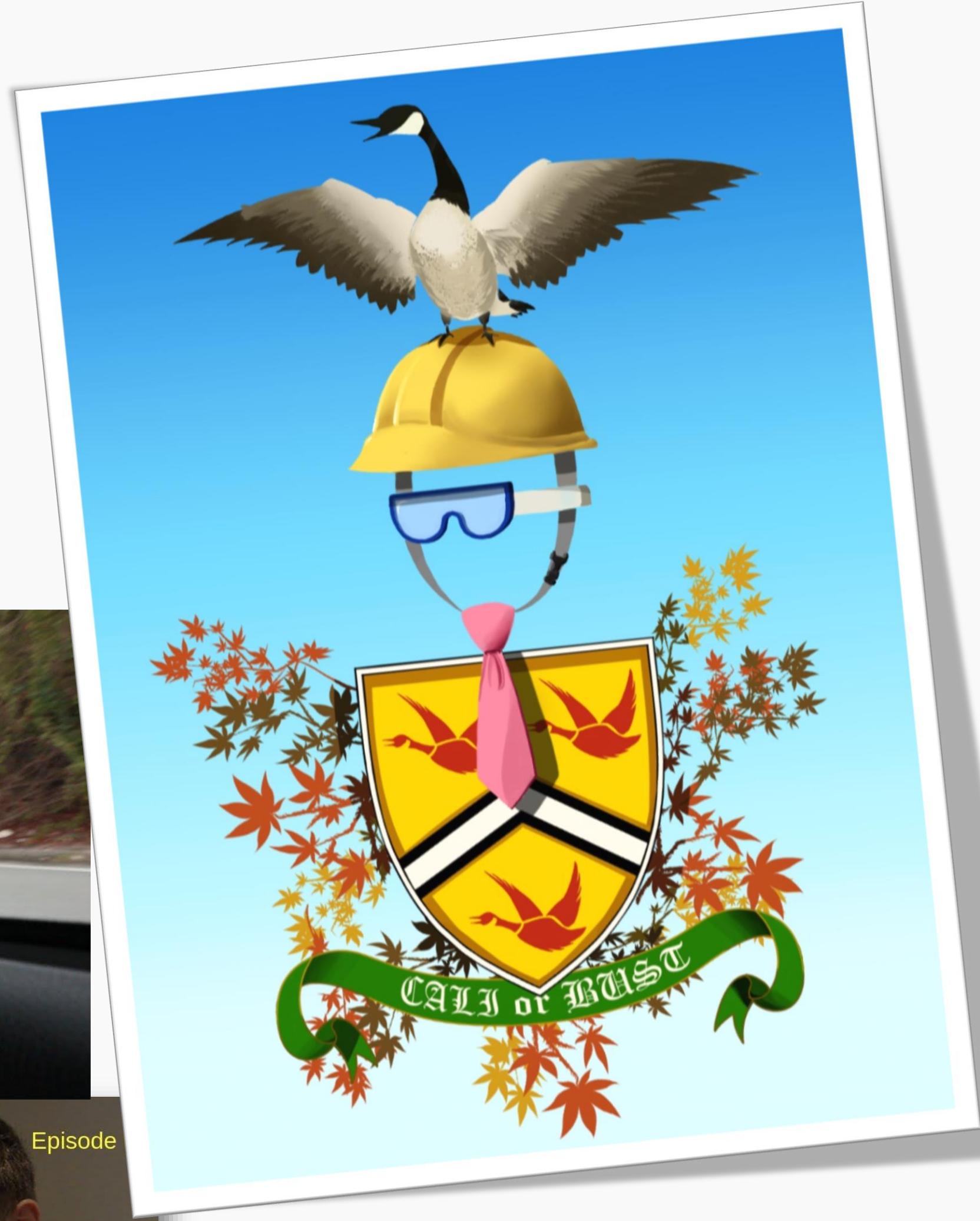
Percentage of Canadian STEM graduates leaving Canada, by major





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*

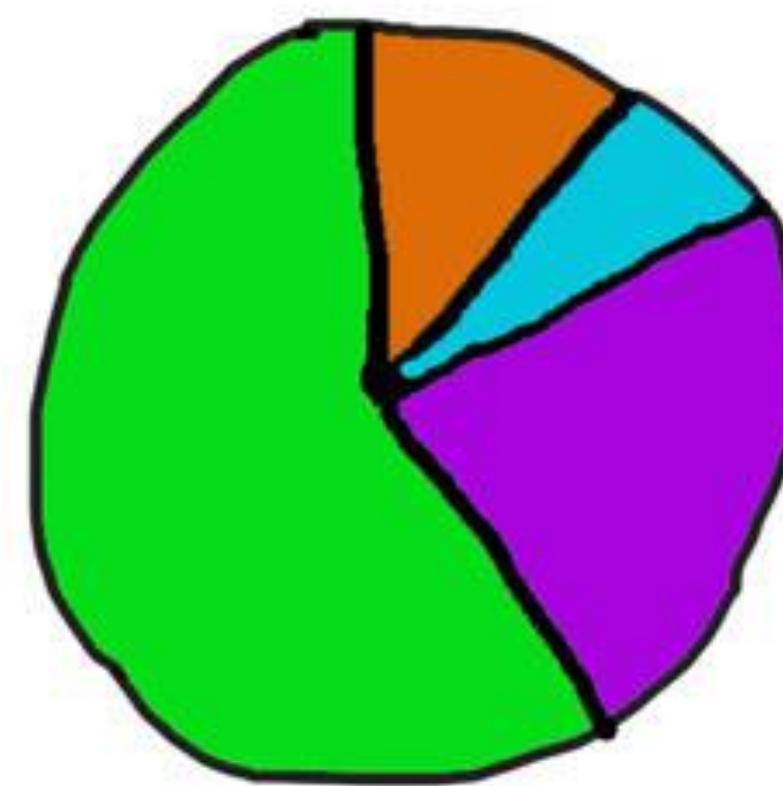
# Impostor Syndrome

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

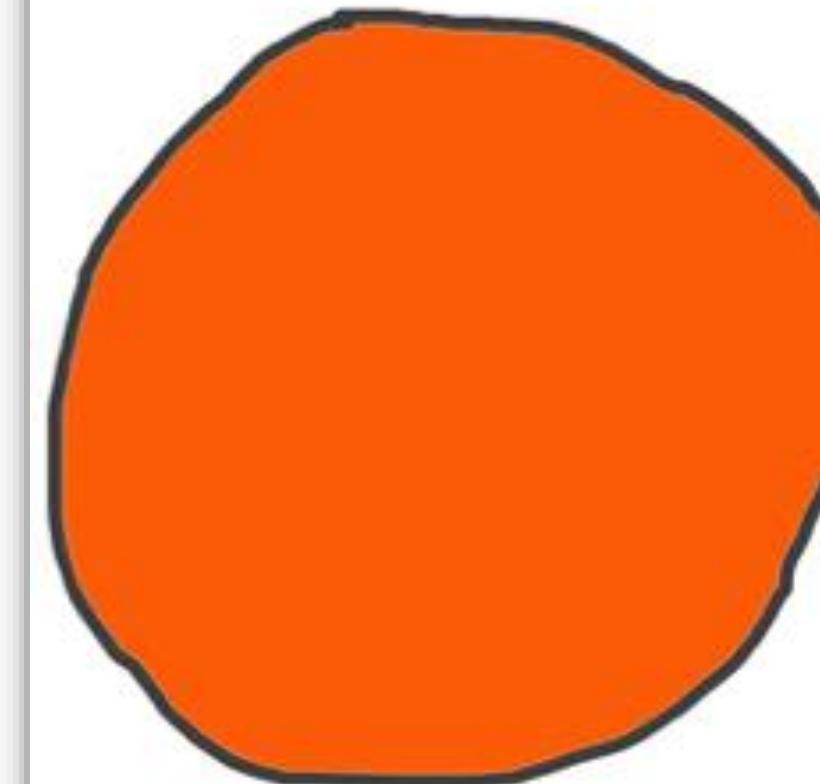
Internships in particular are very forgiving.  
Always keep in mind that:

- 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 worse 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



2

**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

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

Food Server

September 2016 – December 2016

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!
- **Quantify your work!** Instead of saying 'increased efficiency', say something like 'increased efficiency by 40%'
- **Make it readable!** Play with fonts, margins, and boldness to emphasize key points you want recruiters to notice
- **DOUBLE CHECK YOUR WORK!** Check for spelling, grammar, and proper nouns

Consider making use of the **CSEC Office Hours** for Resume Reviews

# The Coding Challenge

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

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**

Sample Test  
29m to test end  
0/3 Attempted

**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:

- An array of integers,  $arr$ , denoting the elements in the array.
- 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	<b>Introduction, about Interviewer, about Company</b>
5 – 10m	<b>Past Experiences and Projects</b>
20 – 40m	<b>Coding Problem(s)</b> done via collaborative editors (HackerRank, TitanPad, CodePad)
10m	<b>Solution Analysis</b> correctness, space/time analysis and trade-offs, design choices, improvements
10m	<b>Questions and Next Steps</b>

# Behavioral Interviews

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

- Talk with future manager or team lead regarding technical competencies, preferred work, and scope of work
- Questions about leadership, teamwork, collaboration, conflict resolution, project management, and other soft skills
- Discussing your values and if they align with company culture



# The Offer

You've gotten an offer!  
**Congratulations!**

Things to keep in mind:

- **Compensation**
- **Duration**
- **Benefits**
- **Commute**
- **Conversion Program**
- **Mentorship**
- **Feedback and Growth**
- **Visa Sponsorship**
- **Response Deadline**

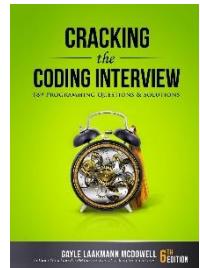
is it a fair market rate?  
how long is the internship?  
what kind of perks does it have?  
how far away is it?  
are full-time roles offered to interns?  
how will interns be trained and onboarded?  
how will the intern be evaluated and given feedback?  
if in a country foreign to Canada  
how long do you have to decide?

# Helpful Resources

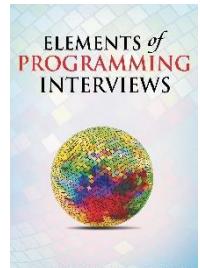
## Algorithmic Problems



## Prep Books



Cracking the  
Coding Interview



Elements of  
Programming  
Interviews

## Interview Preparation



**Pramp** - Practice  
Interviewing Online!

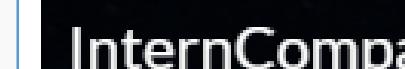


**Mock Interviews** -  
Practice with a friend!

## Company Reviews



**Glassdoor** - Company  
Insights and salary



**InternCompass** -  
Intern program review  
and salary/perks

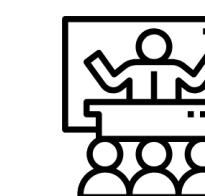
## Job Searching



**INTERN SUPPLY** [intern.supply](http://intern.supply)



LinkedIn and Referrals



Career Fairs!

## Reddit Communities



**CSCAREERQUESTIONS**

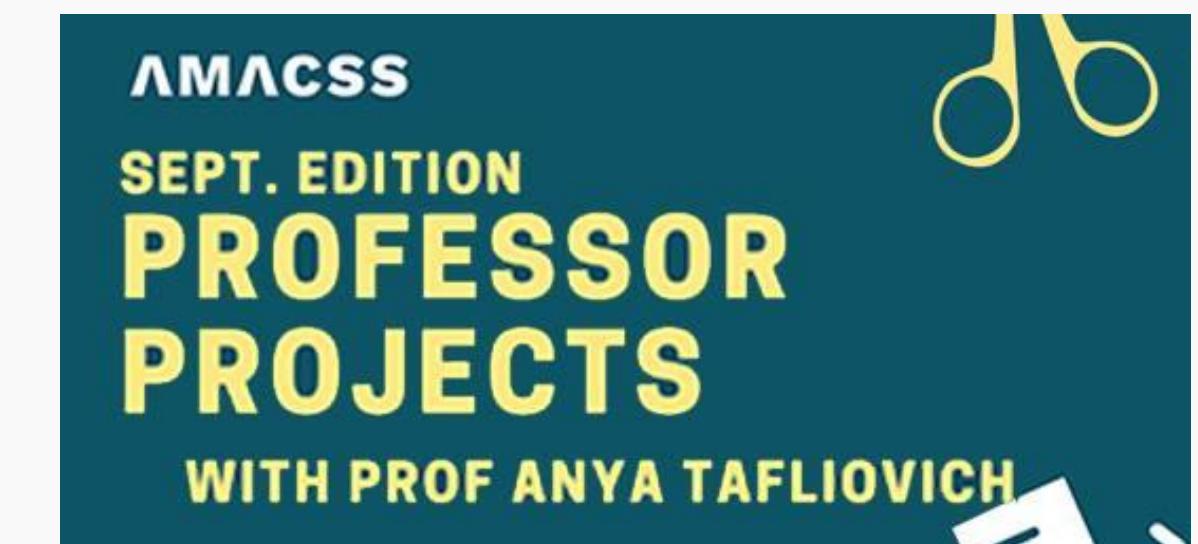
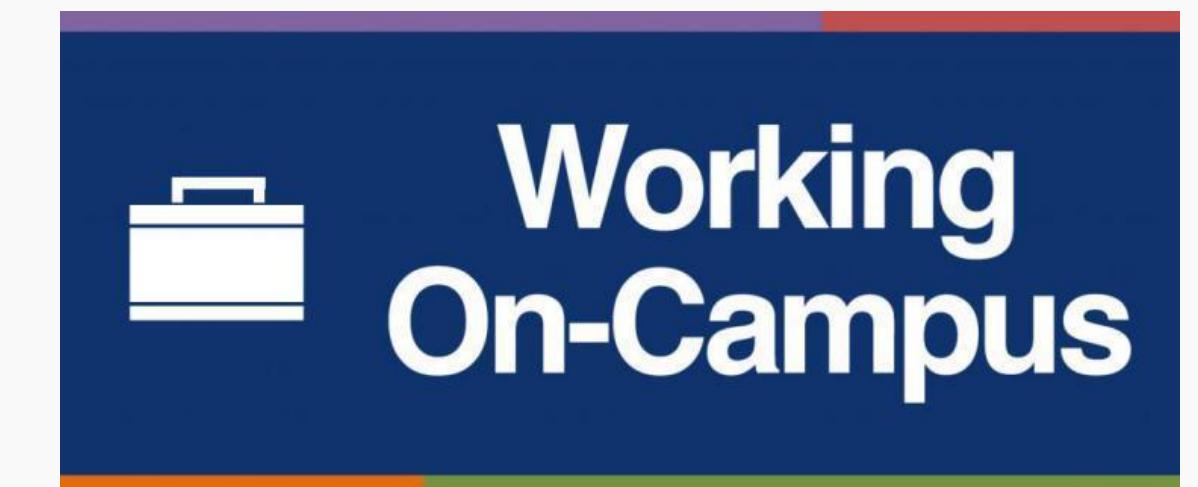


**csMajors**

# UTSC Opportunities

UTSC has a lot of great opportunities to explore!

- **Work-Study Programs**
  - Developer, QA, testing, research roles, and more available!
- **Project Excelsior**
  - Start off your projects portfolio with fellow CS students!
  - Explore web dev, mobile, ML, blockchain, and more!
  - Specific first-year centric projects
- **The Hub**
  - Get seed funding for your start-up ideas!
  - **The Hub Startup Pitch Competition**
  - **The Hub x CSEC Projects Social**
- **Research with a Professor**
  - Help professors in their research areas!
  - **AMACSS Professor Projects**



# Personal Projects Month

## CSEC Introduction to Projects

- What are personal projects?
- What are employers looking for?
- How do I get started?
- **Excelsior Initiative**
- **CSEC First Year Project with Pear**

FRI Oct 11<sup>th</sup>, **5-7PM** @ HL-B101

## The Hub x CSEC Projects Social

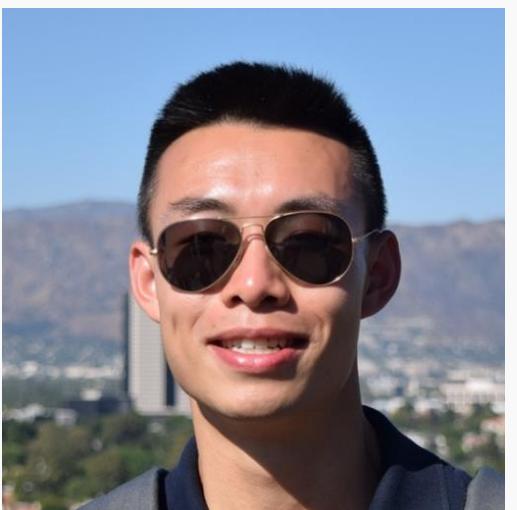
- Learn about The Hub and their Startup Pitch Competition
- Connect with entrepreneurs and learn about opportunities for CMS students
- Network with colleagues and enjoy **free food!**

FRI Oct 11<sup>th</sup>, **7-8PM** @ The Hub, HL-208

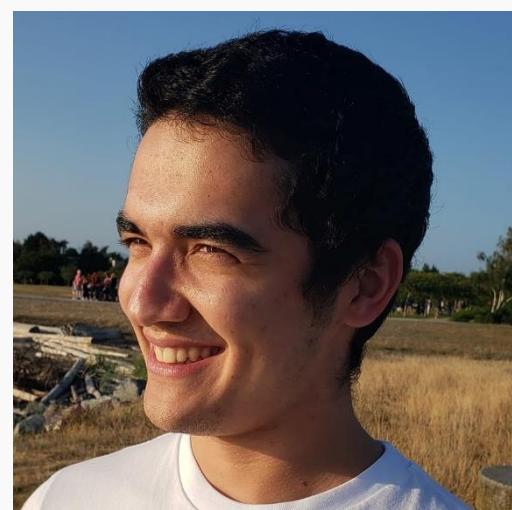
# | Q&A - Guest Speakers Panel



**Brian C.**



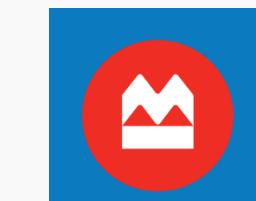
**Richard W.**



**Bekzod T.**



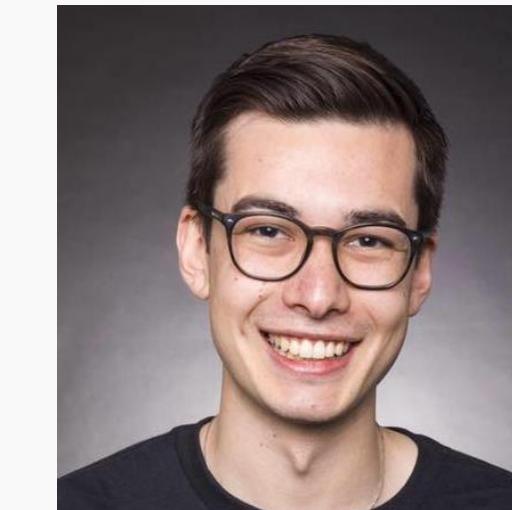
**Stephen L.**



**Kevin S.**



**Vincent T.**



**Quinn T.**

