

Find Your First Internship

A Guide for finding your first tech internship

By: Matthew MacRae-Bovell



What is this Presentation?

- **Audience:** “You want your first development job and you’re not picky”
- All the parts of the job hunting process
- How to **stand out** and how to “play the game”
- Some stuff you might have already heard, but that is important
- Advice gathered from a bunch of my experiences job hunting
- I don't want this presentation to be a big list of all the googleable stuff that's already out there...



I'm Matthew

I've done the equivalent of roughly
"10+ work terms" + contract work,
volunteer development and more.



Exp
Labs.



Fall
2018

May
2019

May
2020

Fall
2020

Winter
2021

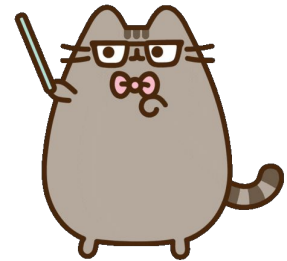
May
2021

Fall
2021

Present

What is an Internship and why should I care?

- Gives you a better idea of what you want to do when you graduate
- Exposure to the difference between industry, school, and academia
- Exposure to different skills, domains, and development ecosystems
- You can “test” a workplace before you commit to a multi year contract
- Start gaining “years of experience”
- Climb the “prestige” ladder quicker
- **Extended Interview



Internship vs “Co-op”

“Must be in an accredited Canadian cooperative education program”.

Usually indicates you need to be in a co-op program so that institution can receive a **tax break**.

Apply **anyways**, just know that it may not work out.



Agenda

- ✓ **Reading Postings**
- ✓ **Finding Postings**
- ✓ **Networking**
- ✓ **Resumes**
- ✓ **Interviews**



Reading Postings



Term Lengths

4 months

Can be very short, you might not get to experience as much

You can often ask to extend

I've **personally** found my learning peaks around 4 months

8-16 months

More likely to be given ownership

if you dislike the work or environment you're stuck

**Some companies in the US do quarterly terms



Job Titles



- **Software Developer**
 - Generic, assumes you'll be doing some form of "development"
 - Could really mean anything
- **Backend**
 - Business logic for some kind of web based system
 - Not aesthetic stuff
- **Frontend**
 - View and client logic for some kind of application
- **Fullstack**
 - Backend + Frontend, hard to tell what position really is from title
 - Usually biased to be more frontend, but that's very subjective based on the position
- **Web Designer / Web Master / Web Developer... when people add Web to the title**
 - Gives me the vibe I'm about to basically just do generic HTML, CSS and JS

Job Titles



- **“Data Scientist”**
 - Doing Math, finding trends in data, may involved developing tooling related to touching that data
 - Although AI an ML are a part of data science, any position that's actually looking for that stuff changes the title to Machine Learning Engineer or something to seem fancy
- **Business Analyst / IT Analyst**
 - “Analyses” out what the business needs, writes up specifications for the developers, writes metric reports, title is honestly vague whether it will have development
- **Quality Assurance / Automation / Testing**
 - Manually testing or writing automation tests for other people's code

Job Titles



- **“DevOps”**
 - DevOps = Developer Operations
 - Varies a lot because it is relatively new semantic, but this could mean any of the things below
 - “IT for Developers”
- **Production / Infrastructure / Site-Reliability / Cloud Developer**
 - Usually concerned with system infrastructure, scalability, deployment, etc.
- **Data Engineering**
 - Use or build tools for organizing and or analyzing data

Job Titles

- **Product Manager**
 - Determine priority of development tasks, probably run scrum meetings
- **Product Designer**
 - Mockups, wireframes, prototypes of the desired interfaces, not necessarily implementing them with code



Job Titles - Seniority

Software Developer < Senior Developer < Staff Developer

**Titles vary by institution



Not Sure what Skills a company looks for?

Check their full-time postings.

You'll likely use the same tech as full-time employees.



Finding Postings



When To Search

Summer

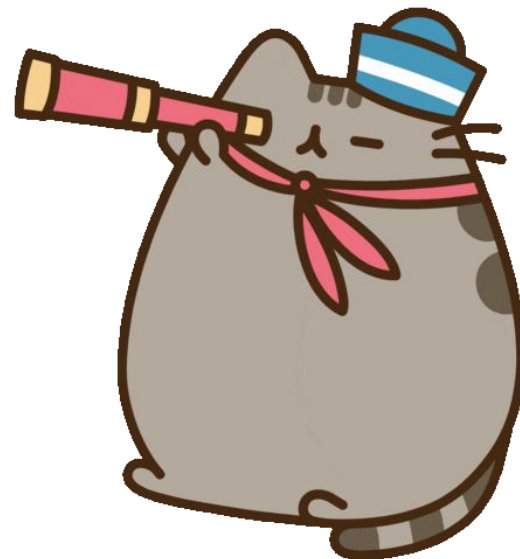
- Summer is the **most** competitive term (few people are in school)
- August - March

Fall

- The **least** competitive term (everyone's going back to school)
- May - July

Winter

- More competitive than Fall
- September - November



*** In reality you kind of never stop looking...

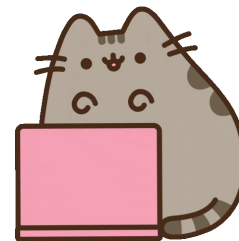
Where to Search - Surface Level Options



Co-operative
Education
CARLETON UNIVERSITY

Title Permutations + location

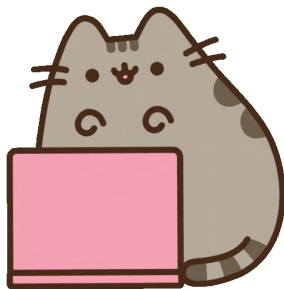
- Software Developer Intern
- Developer Intern
- Software Intern
- Software Developer co-op
- Developer co-op
- Software co-op



Co-op Jobs Portal

To apply you include

- Resume
- Cover Letter
- **Grades Page**



Shortlist	Apply	Deadline in 2 day(s)	2021 - Summer	106472	Junior Software Developer	2KEYS Corporation	Development
Shortlist	Apply	Deadline in 2 day(s)	2021 - Summer	106524	Support Technician, Infrastructu...	Agriculture and Agri-Food Canada ...	IT Client Service
Shortlist	Apply	NEW Deadline in 2 day(s)	2021 - Summer	106748	IT Service Desk Analyst	Agriculture and Agri-Food Canada ...	IT Client Service
Shortlist	Apply	Deadline in 2 day(s)	2021 - Summer	106456	Software Developer (Co-op plac...	Ajile Light Industries	Research & Deve
Shortlist	Apply	NEW Deadline in 2 day(s)	2021 - Summer	106806	Hardware Design Engineering St...	Arkalumen Inc.	Engineering
Shortlist	Apply	NEW Deadline in 2 day(s)	2021 - Summer	106807	Software Design Engineering St...	Arkalumen Inc.	Engineering
Shortlist	Apply	NEW Deadline in 2 day(s)	2021 - Summer	106659	Software Development Student, ...	Assent Compliance Inc.	Human Resource
Shortlist	Apply	NEW Deadline in 2 day(s)	2021 - Summer	106098	Software Developer Co-Op	Barracuda Networks Canada Ltd.	Human Resource
Shortlist	Apply	Deadline in 2 day(s)	2021 - Summer	106581	Trial Manager	Bell Canada	Network
Shortlist	Apply	NEW Deadline in 2 day(s)	2021 - Summer	107046	IPTV Applications Architect (12 ...	Bell Canada	Video Technology
Shortlist	Apply	NEW Deadline in 14 day(s)	2021 - Summer	106987	Bell 2021 Student Opportunities	Bell	Talent Acquisition
			2021 - Summer	106595	Full Stack Developer Student	BlackBerry	Human Resourc

Dean's Summer Research Internships

- Work with professors to conduct research
- Requires a **CGPA of 10**
- Requires you to inquire with profs on your own
- [Link](#)



Federal student work experience program

- Adds you to a job bank for different departments within the Government of Canada
- Lets you list your field interests





AngelList

angel.co/jobs Has lots of startup jobs

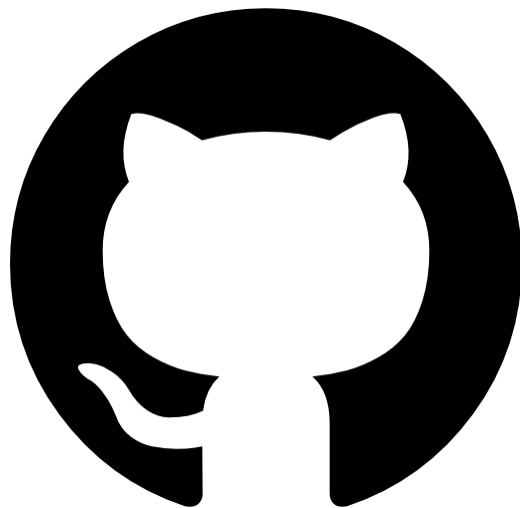


levels.fyi

<https://www.levels.fyi/internships/>



<https://www.cscareers.dev/>
<https://discord.com/invite/cscareers>



<https://github.com/pittcsc/Summer2023-Internships>

<https://github.com/jenndryden/Canadian-Tech-Internships-Summer-2023>

Finding Postings ++

- Find companies in your area - Kanata North, Downtown Ottawa
 - Google: "{x company} internship"
- Look at the list of companies that came to past Carleton Career Fairs

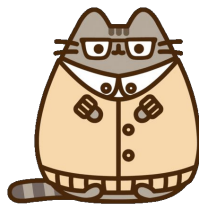


Networking



Career Events

- Conferences
- Career Fairs
- Meetups
- Hackathons (sponsors)
- Networking Events
- **Carleton MySuccess Calendar**



Thursday, September 22, 2022

The Virtual Fall Career Fair Will Host 65+ Employers: Here's What You Need to Know

All Carleton students and new graduates are invited to attend the Virtual Fall Career Fair on Wednesday, October 19, 2022, from 10:00 a.m. to 4:00 p.m. The Career Fair will give you the opportunity to:

- Chat with recruiters and professionals one-on-one. Meetings will take place as speed-networking-style conversations (about 10 minutes). This is done primarily through text chat, though some employers may use audio or video calls.

Carleton Career Fair - **October 19th**



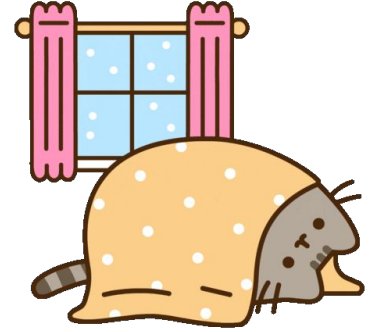
How to prepare for career fairs

For each company, figure out what they do and what skills they look for

- [Example](#)

You can find desired skills by looking at the full-time job postings in their careers section





Helpful Career Fair Advice

- You are going to the event to **“impress”** not to “learn”.
 - You should already know the kinds of positions they’re hiring for
 - You’re going to shake the recruiters hand
- **Do not** ask the company **“what they do”**... you should already know
- **Do not** say “I’m **first year** standing”
 - Understand you are competing with upper-year students
- Take **interest** in working at their company
 - Show you actually care by saying something like “I’ve heard {x} is the leader in {y}”

Learn to Sell Yourself

Sell yourself one way to the recruiter and another way to the developer.
The recruiter is looking to tick off boxes - say you know those skills.

“Hi my name is {name} and I have a background in {x,y,z}. I’ve heard great things about {something that show you care} at {company}, and was interested in applying and learning about your upcoming student positions”.



Make a LinkedIn

- Go spam add a few hundred people - no one cares if it's cringe, just get it over with.
- You don't need to post anything, but having one is important because recruiters will search your name on LinkedIn after looking at your resume.



Using LinkedIn

- Inquire about Internship opportunities with “**Recruiters**” or “**Talent Acquisition**”



Matthew MacRae-Bovell • 11:19 PM

Hi My name is Matthew and I'm a computer science student who would love to intern with I'm currently searching for a Software Developer co-op for the upcoming summer and fall terms. I'm experienced with Ruby on Rails, React and Java. I would love to chat if you're free!

- You can also reach out once a posting is live to inquire about specific posting details.
- User activity raises you in recruiter search results





rocketreach.co

The Matthew M-B Strategy.

- Reach out to “Hr / recruiter” for company that has been to Carleton career fairs before a **month or two** before the anticipated career event.
- Show up to the career fair - say you chatted with them on LinkedIn.
- Show them your very fancy carton resume that you got done at the Carleton print shop.
- Congratulations, now they will be forced to remember you.



Applying



Objective Resume Advice

- Make sure your resume scans - [there are tools to test this](#)
 - Two Columns Might not parse as well as single column
- Make sure it prints - check your page margins
- Grammar Check - Just do it...





Matthew's Resume Advice

- **Just look at what everyone else is doing.**
 - Find the resume of a student who got into a company you want to work for, you can infer factors helped them land the job
 - /r/csMajors
 - You can find a few hundred or so resumes to scan on the weekly resume roast threads
- Taking raw resume advice (especially from other students) is hard to filter because what works for some people is not guaranteed to work for you. It might even hurt you.



Matthew's Resume Advice++

- You can't please everyone: keep it general for general applying, tailor if you care more
- Resume needs to be "tailored" for both the non-technical recruiter and the developer
- Good formatting, spacing, etc. - shows you pay attention to detail
- There is no perfect template, you need to find or create a template that fits your background
- Don't oversaturate your skills - probably doesn't apply if you're 1st or 2nd year
- Maximize space ~ Broken lines look gross and waste space ... reword your points until they fit



What do I put on my resume if I don't have anything?

- Projects - great way to show experience with technologies without having paid experience
 - Don't have any projects? - Word your school work into projects
 - Yes ,this is dangerous because recruiters are going to see the same projects over and over from Carleton students
- Add Extra-curriculars
- Add Interests
- Have really pretty spacing. Make it minimalistic.



**CARLETON COMPUTER
SCIENCE SOCIETY**



overleaf.com



CARLETON COMPUTER
SCIENCE SOCIETY

Matthew's First Resume



Matthew MacRae-Bovell

Email: matthewmacraebovell@cmail.carleton.ca

Website: www.matthewmacraebovell.ml

Github: github.com/MathyouMB

Cell: (613) 720-0969

Education:

Honours Computer Science

Carleton University | Expected April 2022

Sept 2018 -
Present

- Learning common data structures, complexity of algorithms, and program efficiency

Relevant Experience:

Python Developer

Digitera Interactive | Python, BeautifulSoup, Selenium

July 2017 -
Aug 2017

- Programmed Python based social media automation, and web scraping software

Game Developer

Recreo Mortem | C#, AS3, MySQL, Redis

Dec 2017 -
July 2018
|

- Developed C# server side and AS3 client side game content
- Managed MySQL and Redis login information databases
- Recreo Mortem was a Realm of the Mad God game server active early 2018

Projects:

12 Box | PHP, MySQL, jQuery

- 12 Box is a social networking website project where users create a profile using 12 images. It was developed to further learn PHP.

Nov 2018 -
Present

Connect Fources | JavaFx , JavaScript

- Connect Fources is a more complex version of Connect Four where you can choose to change the direction of gravity instead of placing a disk

Apr 2018 -
Present

Literally just looks like it was made in google docs. Does not stand out.

Exp
Labs.



WORK EXPERIENCE

— Application Platform Developer Intern

Kinaxis
Ottawa, ON *05/2020 - 08/2020*

- Accepted summer 2020 offer of employment
- Will be developing features for Kinaxis' cloud-based supply chain management product 'Rapid Response'

— Student, IT Systems Developer

Bank of Canada
Ottawa, ON *05/2019 - Present*

JavaScript JQuery Powershell HTML/CSS

- Normalized and refactored the schema and domain model of an existing web application to simplify the application's architecture and eliminate data redundancy
- Managed the data migration between application schemas, ensuring only non redundant data remained and model relations were successfully kept during the migration
- Worked with ES6+ JavaScript, REST APIs, and techniques such as asynchronous programming to optimize client-side performance and maintain a variety of legacy applications

— Junior Web Developer

Explorator Technology
Ottawa, ON *04/2019 - Present*

React Ruby on Rails Express GraphQL Docker

- Currently developing and maintaining client contracted applications using React, Express, Ruby on Rails, and a variety of Amazon Web Services including S3, and EC2
- Refactored existing RESTful Rails and Express applications to utilize GraphQL and optimize user bandwidth usage
- Normalized Postgres and MySQL relational databases to

EDUCATION

— B.C.S. in Computer Science (Honours)

Carleton University
Ottawa, ON *09/2018 - 04/2022 (Expected)*

C C++ JavaScript Python Java SQL

- Presently learning the fundamentals of systems programming, data structures, algorithm time complexity, relational databases, and software design patterns

TECHNOLOGIES

- Frontend:** React Redux SASS JQuery
- Backend:** Ruby on Rails Express Flask ASP.NET
- DevOps:** Docker Jenkins Kubernetes Git
- Databases:** Postgres MongoDB Redis Firebase

RECENT PROJECT

— Stack Search

CuHacking 2019
Ottawa, ON *02/2019*

Python Flask Bootstrap Selenium Heroku

- Stack Search is an employment related search engine that indexes jobs based on technical skillset to simplify job searching for software developers
- The project was built collaboratively at CuHacking 2019 using a Flask backend, and Selenium for data retrieval

EXTRA CURRICULARS



CARLETON COMPUTER
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Matthew's Opinionated ****Special**** Resume

Matthew MacRae-Bovell

Impact-Driven Software Developer (He/Him)

matthewmacraebovell@outlook.com

github.com/MathyouMB

matthewmacraebovell.com

EXPERIENCE

Shopify Inc.

Software Developer Intern

Sept 2021 - Present

Ruby on Rails Kafka Golang Datadog Terraform

Flow Team - Contributing to Flow, a tool automating millions of tasks within Shopify stores

- Worked on Flow's GraphQL API, orchestration engine, and declarative domain model project
- Verified impact of changes on SLOs by utilizing load tests, metrics, and Datadog notebooks
- Increased resiliency in core event-driven services in preparation for significant Black Friday traffic
- Managed Kubernetes manifests and cloud service configurations with Terraform
- Participated in scheduled "on-call" rotation responsible for identifying and triaging production bugs
- Authored technical specifications subject to review from co-workers and senior leadership
- Assisted teammates working in areas of my expertise through pair programming and code reviews

Royal Bank of Canada

Software Developer Intern

May 2021 - Aug 2021

Angular TypeScript Spring RxJS MongoDB

Choose A Bank Team - Contributed to applications and tools focused on customer acquisition

- Developed features for an Angular and Spring microservice codebase using agile methodologies
- Participated in discussions to determine foundational architecture of several core features

Carleton University

Project Assistant

May 2021 - June 2021

Svelte TypeScript React Python

School of Computer Science - Contracted to organize a project on behalf of the department

Score Media Ventures Inc.

Software Developer Intern

Jan 2021 - Apr 2021

Elixir Ruby on Rails Phoenix Kubernetes CircleCI

Sports Core Team - Contributed to the services behind TheScore's sports media application

- Utilized knowledge of OTP to develop fault-tolerant GenServer based data ingestion services

EDUCATION

Carleton University

Sept 2018 - Apr 2023 (expected)

Bachelors of Computer Science

Honours - Fourth Year

OPEN SOURCE

Sorbet

September 2021

Contributed fixes to the core Ruby types provided by Sorbet.

GraphQL-Ruby

February 2021

Fixed outdated documentation impacted by the release of Ruby 3.0.

DiscreteMath.ca

March 2020 - Present

Created a web platform for Carleton University's discrete math courses.

COMMUNITY

Carleton Computer Science Society

Sept 2018 - Present

President and five-time elected



**CARLETON COMPUTER
SCIENCE SOCIETY**

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- Utilized knowledge of OTP to develop fault-tolerant GenServer based data ingestion services
 - Worked with Kubernetes, Bugsnag, Datadog, and Splunk to supervise infrastructure

Fullscript

Software Developer Intern

Sept 2020 - Dec 2020

Ruby on Rails React TypeScript GraphQL Docker

- API and Integrations Team - Contributed to Fullscript's developer API and third-party integrations
- Developed service objects responsible for the OAuth handshake with third-party integrations
 - Increased test coverage by writing unit and integration tests usingRSpec, Jest, and Enzyme

Kinaxis Inc.

Application Platform Developer Intern

May 2020 - Aug 2020

ASP.NET Java Maven Jenkins

Platform Team - Contributed to the services behind Kinaxis' supply chain management platform

Bank of Canada

Student, IT Systems Developer

May 2019 - Apr 2020

JavaScript JQuery HTML/CSS Azure

Corporate Administration Portfolio - Built internal tools for administration departments

EDUCATION

Carleton University

Sept 2018 - Apr 2023 (expected)

Bachelors of Computer Science
Honours - Fourth Year

OPEN SOURCE

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DiscreteMath.ca

March 2020 - Present

Created a web platform for Carleton University's discrete math courses.

COMMUNITY

Carleton Computer Science Society

Sept 2018 - Present

President and five-time elected executive, leading the organization of services for 2500+ students.

CuHacking

Mar 2019 - Jan 2021

Contributed to the organization of Carleton's annual hackathon attended by over 600 students.

TECHNOLOGIES

Languages Backend

JavaScript Ruby on Rails
Ruby Django
Golang Spring

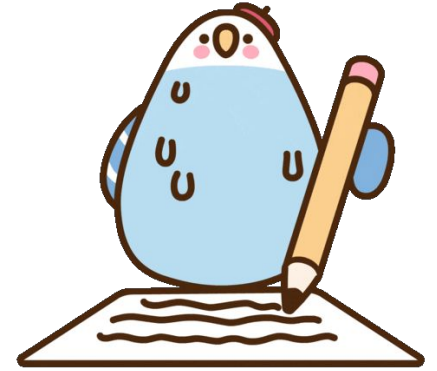
Frontend Infrastructure

React Docker
Svelte Kubernetes
Angular Terraform

- "On the job" skills vs "actual" skills
- Education and work experience at the top
- "Line" about team placement

*** Do note that I use this resume for presentation only. It is not optimized for parsers, but it's great for career events because it really stands out.

My Opinion of Cover Letters



- Yes, not a lot of them get read
- Regardless, some people will weed you out
- Create a very minimal short cover letter that can easily be templated
 - Say the most with the fewest words
 - Include one sentence from the application in your cover letter





Cover Letter Structure

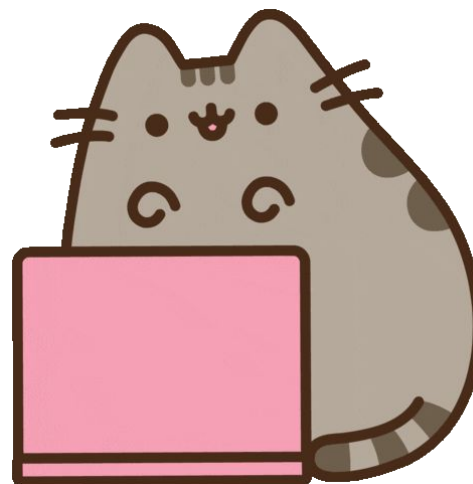
- Paragraph 1
 - Sentence 1: Who you are, your background
 - Sentence 2: How you found the company (if applicable)
 - Sentence 3: One Sentence from the application
 - Ex: "... and I want to join {company} to help **{build the future of x}**
- Paragraph 2
 - 3-5 Sentences about your best work - projects, experience, volunteer, etc.
- Paragraph 3
 - "This {summer?}, I would love to bring my passion for development to {company}. Feel free to contact me any time via email or phone to schedule an interview."

Interviews



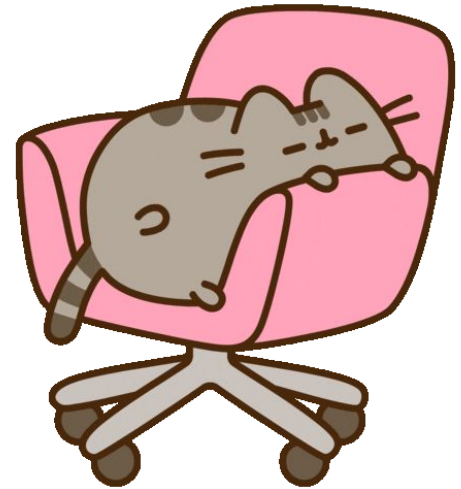
After Applying

- **OA - Online Assessment**
 - Take home project challenge
 - Time-based code challenge
- **Behavioral "HR" Interview**
 - Communications skills
 - Culture Fit
- **Technical Interview**
 - Algorithms
 - OOP Questions
 - System Design

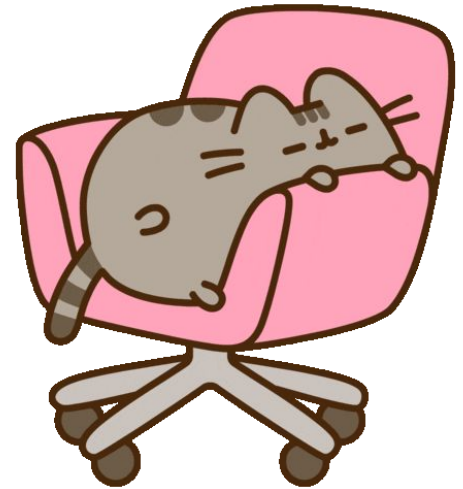


What is the Interviewer looking for? (Depends)

- If you someone they'd want to work with
- If you actually care about the work
- If you have a strong desire to learn
- How you communicate your ideas
- Some level of technical skill
- "Well rounded people"



Check Reddit and Glassdoor
for previous interview
experiences.





Obligatory LeetCode Slide

- You can't just do "8 hours of LeetCode"
- When I used to care about LeetCode, I did 1 problem a day and would attempt the problem again 1 week later to make sure I still understood it. Sort by difficulty, acceptance.
- I find LeetCode isn't that crucial for jobs at the local level



Before you Accept

- Don't feel pressured to accept a job offer immediately over the phone, take some time to think it over
- Know what you're going to be doing (at a surface level)



Thank You!

Questions?



Future Ideas

- Personal Projects Deep Dive
- Modern Software Development: What skills will help you get a job
- The Tech Industry: What factors influence a work environment

