Playing the Internship Game

A guide for landing internships, navigating the industry, and underclassmen targeted internship opportunities.

QWIC

Preface

This workshop is a culmination of our experiences and of friends with navigating tech

Our goal: You should be able to walk away from this with **actionable items** and a better understanding of the field and its opportunities

A bit about us: Karishma

➔ Took CISC 121 in first year fall as a science student and fell in love with programming! Now in third year Computing and Math :)
➔ Microsoft Explorer Intern, prev SDE intern @BMO Capital Markets
➔ I've been rejected from a lot of companies too!
➔ Super excited to talk about my mistakes and what I've learned to help out other Queen's students

A bit about us: Rachel

➔ Fascinated by the intersection of tech and business and in 4th year Computing and Economics dual degree
➔ Microsoft Student Partner Lead, prev SWE intern @Shopify, Tesla
➔ Recruiting can be a long road of preparation, but the opportunities are amazing!!
➔ Our goal is to create greater support, awareness and opportunities for Queen's students interested in tech

A bit about us: Eunice

➔ Transfer to Computing & Mathematics from Life Sci & passionate about helping people out learning from my trials and errors!

➔ Outside of my program: UX Design, Business

➔ Always networking, coffee chatting

➔ Your major doesn't define who you are!

➔ Finding out about what you want to do can be a challenging & stressful road, but it's worth it and so exciting!

A Quick Overview

➔ Breaking Misconceptions about the Industry and Ideal Candidate

➔ Roles in Tech Industry

➔ Interview Process - *Who, When, How*
  ◆ First and second year targeted programs
  ◆ Fellowship programs
  ◆ Application timeline and process

➔ Opportunities to grow yourself and your network

➔ Resources for you

➔ Questions!

The Ideal Candidate

➔ Does *not* have to have:
  ◆ a ridiculously high GPA (not necessary but this will help!)
  ◆ years of programming experience / is some coding whiz
➔ It does help if you:
  ◆ Are curious about computer science/tech
  ◆ Show your interest through any number of tangible actions:
    ● Building **side projects**
    ● Attending **hackathons**
    ● Working on a **design team** (ex: QSET, Solar Design Team, MAST, etc)
    ● Attending **conferences** and **meetups**
    ● Doing **research**
  ◆ **Care about things outside of tech**. The world is too complex for solutions to come from one discipline.

Why do an Internship?

➔ What you learn in university is *very different* from real world software engineering and its practices
  ◆ Ex: writing 500 line programs vs scouring through 2 mill+ line codebases
  ◆ Product management, designing user experiences and features.
➔ Helps you do better at school!
➔ You can experience different workplaces and figure out what you like so you'll be a better informed new grad
➔ Your job search after school will be **much** easier
➔ Explore a new city, make friends, and work for impactful companies!

Learning about the Industry

Types of Tech Roles

➜ **Software Engineering**
- ◆ **Infrastructure**
  - ● DevOps, Network Engineers, i.e. ~the cloud~, docker, containers, etc
- ◆ **Backend Engineering**, **Security**
- ◆ **Frontend Engineering**
- ◆ **Native**
  - ● iOS, Android, Desktop applications

➜ **Product Management (PM, Associate PM, Technical PM)**

➜ **Data Science**

➜ **User Experience Design**

➜ **Consulting**

➜ **Quality Assurance**

Applying to Internships

Vivian Lee
@vivianwmlee

When I turned 30 last year, my goal was to be rejected 20 times (for my essays, fellowships, panels, etc) as a way to just, put myself out there. So far, I've had 2 rejections but 9 pieces published, taught two courses, and spoke at 5 conferences.

2018-08-13, 10:23

11.8K Retweets **79.6K** Likes

"Never let the fear of striking out to keep you from playing the (internship) game"

- Hilary Duff from Cinderella Story

Basic Ingredients

➔ **A solid tech resume**
- ◆ We'll be running workshops on this in January, but I'll link a few here for different roles:
  - ● Software:
  - ● Product Design/PM:
  - ● UX/UI:
➔ Experience working on a **finished project** that you can speak to
- ◆ Having a bunch of unfinished ones are great if you have **one** that is complete that people can find online
- ◆ It looks great if it's something people can use and see metrics for (e.g. apps on the Y store).
➔ **Linkedin, Github, and Personal Website**

Personal Projects

Anyone can create side projects, regardless of your experience level!
These do not have to be big or take too long to do! It's totally okay to make something assignment sized that takes less than a week of work, or a few hours on a weekend.

➜ **Benefits for you**
  - ◆ Getting better at coding requires writing code!
  - ◆ It's a chance to build something from scratch and learn and explore different technologies with little commitment
  - ◆ They help get you employed!
  - ◆ They **really** help get you employed when you don't have industry experience
  - ◆ They open up more doors even when you have experience
➜ Signals a project conveys to an employer
  - ◆ **You can learn a technology or concept on your own**
  - ◆ **You can complete a project on your own**
  - ◆ You are curious and willing to learn!

Getting the timing right

➔ **Summer Internships**
   ◆ American companies (including banks) begin recruiting in **July/August** to end of **November** (and at the very latest in **February**)
   ◆ Canadian startups, small companies and banks usually begin in **December**
      ● Banks fill slots in the fall with internal referrals
      ● **Shopify** apps open in early/mid December
   ◆ You can still find internships as late as April/May! Don't give up :)

➔ **Fall Internships**
   ◆ Opens in **May** and ends in **August** at the latest
   ◆ Usually run by large companies since they have the budget to have off season interns, but more companies are beginning to offer them.

➔ **Winter Internships**
   ◆ Opens in **Aug/September** and ends in **December** at the very latest

First and Second Year Targeted Internships

➜ **Google Engineering Practicum**

➜ **Microsoft** Explorer

➜ **Facebook** University (FBU): Eng, Prod Design, Design

➜ **Amazon** Future Engineer

➜ **Two Sigma** Freshman Software Engineering

➜ **Local Startups** Checkout AngelList (Waterloo, Toronto, Montreal)

➜ **Canadian Banks**

➜ What do they look for Microsoft Explorer, Google EP, FBU?
  ◆ High GPA (Google, FBU)
  ◆ Problem Solving skills
  ◆ Passion
  ◆ *Potential* to Learn/Grow
➜ General Timelines and Processes for these programs:
  ◆ **Microsoft Explorer and Google EP**: Applications open in September, First Round by Oct/Nov, Final rounds (flown out or remote) between Oct - Feb
  ◆ **FBU**: Applications open in September and close **Dec 3rd**

@karishmadagaa

Third and Fourth Year Targeted Internships

➔ **Education:** Khan Academy, Coursera, Socratic, Knewton, Tophat
➔ **Payments:** Stripe, Shopify, Square
➔ **Music / Fashion:** Spotify, Stitch Fix, Etsy, Nordstrom, Pinterest
➔ **Finance:** Wealthsimple, Blend Labs, Jane Street, Two Sigma, Citadel, D.E. Shaw
➔ **Healthcare:** Nutanix, Flatiron Health
➔ **Food and Travel:** Yelp, Foursquare, Airbnb, Ritual, Opendoor, UberEats
➔ **Infrastructure / Tools:** PagerDuty, MongoDB, Cockroach Labs, Twillo
➔ **Gaming:** A Thinking Ape, Zynga, Robolox, Niantic
➔ **Sharing / Communication Platforms:** Slack, Quora, Snapchat, Asana, Trello
➔ **Transportation:** Uber, Lyft, Flexport, Instacart
➔ **Developer Tools:** Glitch, Github, Datadog

Fellowship Programs

➔ Great if you want to experience what working at a startup is like

➔ **KPCB Fellows (3rd Year +)** ☞☐ http://kpcbfellows.com/

  ◆ "KPCB Design and Engineering Fellows join our portfolio companies, where they develop their technical or design skills and are mentored by an executive within the company. Participants in our new Product Fellows program will get the chance to spend a full year working at a Silicon Valley startup."

➔ **Cansbridge (2nd Year +)** - fellowship to work and travel in Asia

➔ **Mars Discovery District:** Airbnb, Autodesk, Hubdoc, etc

How to Apply for Internships

➔ Fall 2017 Karishma 'sprayed and prayed' (Don't be her)
➔ In descending order:
  ◆ Referrals are 🔑
    ● Establishing long terms relationships with people
    ● Directly contacting recruiters
  ◆ Cold contacting alumni (with reason, don't spam people) and/or people in roles you're interested in at a company
  ◆ Recruiters at tech events (hackathons, conferences, etc)
  ◆ Creating a presence in the industry
    ● Being known on tech twitter, and/or writing technical blog posts
  ◆ Career Fair
  ◆ Online applications.

Building a Network

➔ In Person
  ◆ Hackathons
  ◆ Conferences
  ◆ Meetups, etc.
➔ Online Presence
  ◆ Emailing people (this acc works)
  ◆ Twitter
  ◆ Linkedin
  ◆ FB Groups, etc.

Conferences and Hackathons

➔ **Upcoming Hackathons**
   ◆ ConUHacks, Delta Hacks, nwHacks, QHacks, MakeHarvard, McHacks.
   ◆ See mlh.io for all hackathons
➔ **Upcoming Conferences/Meetups**
   ◆ Annual for Women and/or URMs in CS: Grace Hopper, Alterconf
      ● Project Alloy ☞☐ http://projectalloy.org/
   ◆ Cool upcoming conferences in 2019:
      ● https://starcon.io/ in Waterloo! (shameless plug 👻)
      ● http://bangbangcon.com/ in New York!
      ● Reach out to me for more!
   ◆ Meetups in Toronto: Everything from wearables to ML to devops.

Conferences and Hackathons contd.

➔ Talk to people! Ask what they're working on, how they got into it, etc.

➔ Add 'em on linkedin/get their email/twitter and make sure you keep in touch with them.

➔ Make it a goal to meet two new people at every event you go to.

This is how you build a network from scratch.

Referrals

➔ When someone you working at a company (full time or intern) recommends you for the position
➔ This gives your application priority so that it gets looked at by a recruiter
➔ Stay in touch by following up through Linkedin or email about your passion and progress in tech. Feel free to mention that exciting personal project you've been working on or updates about you!

You got through! Now what?

General Process:

➔ *1 coding challenge and/or 1-2 phone interviews*
   ◆ Coding challenges: technical questions (see [leetcode](#))
   ◆ Phone interviews: Usually technical in nature with behavioural mixed in.
   ◆ Some companies do take home assignments in lieu of a coding challenge
➔ *Onsite/Final round:*
   ◆ Depending on the company, they may fly you out to their HQ. These consist of 3-4 back to back interviews

Coding Challenges

➔ Typically 1-2 hours long where you're given anywhere between 1 to 4 algorithmic problems to solve. These can range from "leetcode easy to hard"
- ◆ Leetcode Easy: mostly straightforward questions involving simple changes to a data structure or basic tricks. Example: Invert a Binary Tree
- ◆ Medium: Intended to train your skills in seeing through problems, and are usually disguised as a variation of an easy problem! Example: Merging Intervals
- ◆ Hard: These are bar-raisers. They're intended to be hard and make you struggle and can take a long time (45 min +). Example: LRU Cache

Coding Challenges

➔ Tips for prepping!
   ◆ Start early! December is a great time to pick up Cracking the Coding Interview and work through their problems. Their questions are mostly easy to medium and super important to get a strong foundation.
   ◆ Solve the problem first before optimizing and try to use no hints! Try to get Easy questions right on the first try and force yourself to think about all of the test cases.
   ◆ Problem pattern recognition: Get to a point where you can identify underlying problems they're disguising
   ◆ See full doc here on a Guide to Prepping
   ◆ Example Github for keeping track of your prep!

Questions?

Ask away!

Resources

➔ A **list of Toronto tech companies**
➔ (US focused) **list of Summer 2019 internship applications**
➔ (US) Another **list of companies**
➔ **Internships resources document** - Angela Zhuo, CS at Brown
➔ **Interncompass** - really nice internship review site! Sorted by sector too.
➔ **Talk on deciding the path you want to go into**

Interview Prep Resources

➔ **Data Structures and Algorithms notes:**
  ◆ [Visual notes explaining DS and algorithm concepts! (A personal favourite)](#)
  ◆ [Cracking the Coding Interview](#)
  ◆ [Data Structures - CS 240 at Waterloo](#)
  ◆ [Data Structures - Brown](#)
  ◆ [Algorithms - CS 341 at Waterloo](#)
  ◆ [Algorithms - Stanford online course](#)
➔ **Interview Problems:**
  ◆ [Leetcode](#)
  ◆ [Hackerrank](#)
➔ **Mock Interview:**
  ◆ [Pramp](#)

➔ [Prep Guide](#)

Cold Contacting People

➔ Finding recruiters to contact:
  ◆ Google the following: *site:linkedin.com (inurl:in OR inurl:pub) -inurl:dir -inurl:job -inurl:jobs -inurl:jobs2 -intitle:profiles -inurl:groups "University Recruiter "*
➔ Contacting Them:
  ◆ Always use email if possible! Use hunter.io to check for a valid email. Usually some form of **'firstname.lastname@company.com'**
  ◆ Use "RE:" at the beginning of the subject line
  ◆ [Article on cold-contacting people](#)
  ◆ Mention near the end, "Attached is my resume" and attach it if necessary. It should be a single page pdf, and the file name should be: "FirstNameLastName - Resume.pdf"

Online Communities

➔ Tech Student community: **Hackathon Hackers**

➔ Resume and Website Review community: HH Websites and Resumes

➔ Computer Science subreddits: cscareerquestions, csMajors (for info on interviews)

➔ Women in Computer Science communities:

- **Ladies Storm Hackathons** (undergrad)
- **Tech Ladies** (new grad, industry)
- Women of Rewriting the Code (undergrad)

◆ Student/New Grad data science community: **Data Hackers**

1) Create profile for LinkedIn and AngelList
2) Research roles in tech and decide which role you are going for
3) Take courses that are relevant to that role
4) Create github if interested in software engineering, data science, product management
5) Create personal projects, attend conferences, hackathons
6) Get involved with tech extracurriculars on campus
7) Network at conferences, hackathons and add connections on LinkedIn
8) Create personal website to showcase projects
9) Read tech news and do research on which companies interest you
10) Begin preparing for the recruiting process two months in advance
11) Apply early and widely - applications can open in beginning of August
12) If software engineering, read cracking the coding interview, practice coding problems on Hackerrank, Leetcode, do mock interviews with friends and using Pramp
13) Reach out to those you have met at conferences, hackathons to ask for referrals
14) Schedule interviews in increasing order of importance eg. save your favourite company for last so that you will have practice interviewing with other companies first
15) YAY - YOU GOT AN AMAZING INTERNSHIP!!!
16) Give back to the Queen's Tech Community by hosting a workshop like this!