Finding Internships

Saturday, January 16th | 12 - 1 PM EST

Finding Internships

By Matthew MacRae-Bovell
HELLO!
I’m Matthew :)
Before we start...

- All presenters have a **personal bias** from their own experiences.
- Don’t feel **forced** to do what you’re not comfortable with.
- Take advantage of **student exclusive** opportunities.
- Everyone has **different life goals**.
The Benefits of Internships

- Allow you to gain relevant experience and prepare you for full-time positions
- Help you discover what your interests within computer science are
- Test different work environments, work styles, teams, etc. without committing to full-time employment
- Learn what you won't learn in school
Getting Started
Finding Your Interests

Tips for if you aren't sure what part of CompSci interests you:

- Connect your other interests to CompSci
  - Examples: Music Software Development, Chemistry lab Simulator
- Look into the technical requirements of positions similar to work you might want to try
- Look into the technical requirements of positions at a company you may want to work for
- Experiment with side projects
  - Will be discussed later
Terms

- Usually follow the three term schedule (Fall, Winter, Summer)
- Terms vary in length from 4 months - 16 months+
  - **4 months**
    - Can be very short, you might not get to experience as much
    - Many companies will bring you on for 4 months at first, but extend you later
    - I’ve personally found my learning peaks around 4 months *(VERY SUBJECTIVE)*
  - **8-16 months**
    - More likely to be given ownership, but if you dislike the work or environment you’re stuck
- In CO-OP you’re required to do a total of 16 months - can be divided up
- Some companies in the US do quarterly terms
When To Search

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

- **Fall**
  - The **least** competitive term (everyone's going back to school)
  - May - August
    - **May is Important**

- **Winter**
  - **More** competitive than Fall
  - August/September - November/December
    - **September is Important**
Job titles are very subjective and vary greatly between organizations...

Job Titles (1/3) (and what they kind of are, but not really)

- **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
“Data Scientist”
- Doing Math, finding trends in data, may involved developing tooling related to touching that data
- Although AI and 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
- Figures out what the business needs, writes up specifications for the developers, writes metric reports, title is honestly vague whether it will have development

Devops / Production / Infrastructure / Cloud Developer
- Working on a mix of deployment and developer experience tooling + all that funky distributed system cloud stuff
- Devops = Developer Operations

Quality Assurance / Automation / Testing
- Manually testing or writing automation tests for other people's code
Job Titles (3/3) (and what they kind of are, but not really)

- **Product Manager**
  - Determine priority of development tasks, probably run scrum meetings

- **Product Designer**
  - Mockups, wireframes, prototypes of the desires interfaces, not necessarily implementing them with code
Workplace Factors (1/2)

As an intern, you want to maximize the learning and growth you will achieve over the course of your term. The following are factors you can judge a workplace by before you apply.

- **Organization Size**
  - See next slide...

- **Organization Type**
  - Government
  - Startups
  - Product Focused Companies
  - Tech company vs Non tech company

- **Technology & Learning Opportunities**

- **Internal Culture**
## Workplace Factors (2/2)

### Size of Organization

<table>
<thead>
<tr>
<th>Large</th>
<th>Small</th>
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<tbody>
<tr>
<td>More specific roles</td>
<td>Less specific roles</td>
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<tr>
<td>More bureaucracy</td>
<td>Less bureaucracy</td>
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<tr>
<td>Less flexibility</td>
<td>More flexibility</td>
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<tr>
<td>More Benefits</td>
<td>Less Benefits</td>
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<tr>
<td>More Job Security</td>
<td>Less Job Security</td>
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<td>Less Ownership</td>
<td>More Ownership</td>
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<tr>
<td>Less Stress? **</td>
<td>More Stress? **</td>
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Very Subjective based on the company and where they might land on the spectrum
My very Subjective Experiences with different types of Institutions

- 5-10 Employees
- Startup
- Not product focused
- Lots of Learning
- Irregular Schedule

- 2000+ Employees
- Government
- Not product focused
- Non Technical institution

- 1000+ Employees
- Publicly Traded
- Product focused
- Technical Institution

- 250+ Employees
- Startup
- Product focused
- Noticeable Dev Culture

- 250+ Employees
- Publicly Traded
- Product focused
- Product Focused Culture
Surface Level Options

- Online Postings
  - LinkedIn
  - Indeed
  - Google
  - Company Careers Section

- Attending Events
  - Conferences
  - Hackathons (usually have sponsors)
  - Networking Events
    - Check out carleton mysuccess careers calendar
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.
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
- Link
angel.co/jobs  Has lots of startup jobs
Carleton Co-op

- COOP Vs Internships
  - Some companies use the term interchangeably
- The process
  - The course > Job Search > Work term > Report
- Fees

<table>
<thead>
<tr>
<th>Year</th>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>Four</th>
<th>Five</th>
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Co-op Costs

Program Costs: Link

Administrative Fees for Undergraduate Students

There are a total of 4 co-op admin fees which are charged on a predetermined schedule.

The first admin fee is charged when a student registers for COOP1000. Registration in this course indicates that the student is now part of the co-op program and will remain so unless the student requests to withdraw or is removed for missing requirements. Your predetermined admin fee schedule depends on whether you take COOP1000 in the Fall term, or in the Winter term.

All co-op students are required to pay all admin fees regardless of whether or not:

- co-op position is secured, and/or
- the position is secured through the co-op office or through a student's self-directed search

Cost of Admin and Work Term Fees for the 2019/20 Academic Year

<table>
<thead>
<tr>
<th></th>
<th>Summer 2019</th>
<th>Fall 2019</th>
<th>Winter 2020</th>
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<tbody>
<tr>
<td>Admin Fee</td>
<td>$405.50</td>
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<td>$405.50</td>
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<tr>
<td>Work Term Fee</td>
<td>$405.50</td>
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The fees you pay cover the entire cost of delivering this option to eligible students. The total program fee will vary based upon a student’s program and the number of work terms they are required to complete for their designation.

The fees are broken into administrative and work term components. Carleton University is proud to be able to offer to students the opportunity to participate in one of the best co-op programs in Canada while working hard to ensure its fee remains one of the lowest in the province.
Helpful Courses

- **COMP2402**: Data Structures
  - Algorithm questions are common
  - Take it first term 2nd year if you can

- **COMP 2406**: Fundamental of Web Applications
  - The majority of the co-op positions are web based
  - Take it first term 2nd year if you can
Co-op Jobs Portal

To apply you include

- Resume
- Cover Letter
- Grades Page
Co-op Pros & Cons

Pros
▶ Easy Job searching
▶ Saves you time
▶ Access to co-op only postings
  ▶ tax credit

Cons
▶ You can only turn down one job
▶ You can’t turn down interviews, but you can reschedule
▶ Course is fairly generic
  ▶ claims to be tailored, but isn't super tailored really
▶ Term reports
  ▶ 10+ page report (but good reflection)
▶ Fees
Resumes
General Advice

- Tailor your resume
  - Make your resume easy enough to change that you can tailor it for different positions with different skill or technical requirements

- You can’t please everyone
  - Make a resume that will appeal to the greatest number of organizations (if you want to apply using the same resume several times)

- There isn't one good format
  - Formatting is important, but certain templates will not work for everyone
  - The format of your resume will depend on the kind of information you have
  - I don't recommend accepting resume advice from one single person, get a variety of formatting advice
General Advice

- **It should look presentable**
  - Use a template if you don’t want to create your own layout

- **Grammar Check**
  - Just do it

- **Don’t oversaturate your skills**
  - Include position specific skills and ones that address specific needs

- **Make sure your resume can be scanned**
  - Many companies will have a pdf reader scan your resume for keywords
General Advice

▸ Look at everyone else’s resumes
  ▸ 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
### Matthew MacRae-Bovell
**Computer Science Student**

**Email**: matthewmacraebovell@outlook.com
**GitHub**: github.com/MathyouMB
**Website**: matthewmacraebovell.com

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#### Experiences

**Score Media & Gaming Inc. / Software Developer Intern** (01/2021 - Present)
- **Sports Core Team** - developing the EKS hosted microservices behind TheScore's sports media application
  - Currently developing the core Phoenix based data ingestion service that normalizes data from third-party providers
  - Utilized tools such as Datadog and Splunk to monitor Kubernetes infrastructure

**Fullscript / Software Developer Intern** (09/2020 - 12/2020)
- **API and Integrations Team** - building the developer API for Fullscript's healthcare ecomerce platform
  - Added models, RESTful endpoints, and backend service objects to Fullscript's monolithic Ruby on Rails application
  - Integrated OAuth based login into an existing login flow by modifying React components and GraphQL queries
  - Expanded Fullscript's test suite by writing unit and integration tests using RSpec, Jest, and Enzyme

**Kinaxis / Application Platform Developer Intern** (05/2020 - 08/2020)
- **Platform Team** - developing the scalable web services that power Kinaxis' supply chain management platform
  - Worked with ASP.NET to build and maintain Kinaxis' performant and scalable SOAP based web services
  - Packaged artifacts using Maven to remove unnecessary compilation and improve build time of core Java client

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**Languages**
- JavaScript
- Ruby
- Python
- Java
- Golang

**Frontend**
- React
- Redux

**Webpack**
- HTML/CSS

**Backend**
- ASP.NET
- C#
- Java
- Maven
- Jenkins
Projects

Great way of selling yourself and showcasing skills if you do not have experience

- Build something you want yourself
- Build something that helps you learn new skills
- Build something someone else needs
After Applying
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
Interview Prep

- **Technical**
  - Practice Questions - [https://leetcode.com/](https://leetcode.com/)
  - Practice Interviews - [https://interviewing.io/](https://interviewing.io/)

- **Glassdoor**
  - You can usually read about a company’s interview process through different entries on glassdoor
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).