

Kabob and Jobs



**GETTING YOUR FIRST CS INTERNSHIP
A WICS GUIDE BY JULIE MOND**

Overview



- Learn how to get your first technical internship!
 - Or your second... the tips are pretty universal
- Agenda
 - Writing a resume
 - Applying for jobs
 - Interview process
 - Q&A with panel

Disclaimer



- The opinions expressed here are from my own experiences and feedback I've gotten from recruiters and friends
- These slides contain guidelines, not rules

About Me



WHO AM I?

Resumes



GET NOTICED!

What is the purpose of a resume?



- Convince a recruiter that you're worth interviewing
- Provide your interviewers with a guide to your skills and experience
 - Interviewers may ask you about anything on your resume – don't lie or exaggerate!

What should a resume look like?



- Recruiters usually spend under a minute looking at your resume
- Make it succinct and easy to parse!
 - Exactly one page
 - Use formatting to make certain things stand out
- Be consistent in formatting, alignment, and design

What do resumes include?



- A resume should reflect what you've done
- Many CS resumes will include most of these:
 - Academic stuff
 - Work experience
 - Technical projects
 - Extracurricular activities and leadership experience
 - Skills, awards, interests

Academics



- Basic Info
 - School
 - ✦ Brown yay! Make this bold!
 - Concentration
 - ✦ You can write Sc.B. or B.S. (or A.B./B.A.)
 - Expected graduation
 - ✦ Ex: May 2014, December 2015
- Relevant Courses
- GPA

Relevant Courses



- Usually CS and math courses
 - Can be courses from other departments if they're related to the job you're seeking
- Course names, not numbers
- Can rename courses to be more succinct or clearer
 - EX: "Introduction to Object-Oriented Programming and Computer Science" -> "Object-Oriented Programming in Java"
- Distinguish between completed courses and current ones

GPA



- Brown doesn't calculate GPA, but you can compute your own if you choose
 - Many people calculate it as follows, but this is NOT official:
 - ✦ A and S_DIST: 4
 - ✦ B: 3
 - ✦ C: 2
 - ✦ S: Leave it out
 - ✦ NC and Drop: Can be left out, since they don't show up on your external transcript
 - Take the average of all the grades you're including
 - There's no official way of doing it
- Is my GPA high enough to include?
 - Above 3.0: include it
 - Below 3.0: opinions diverge

GPA (ctd.)



- Some people also calculate CS GPAs
 - Can include both cumulative and CS GPA
 - ✦ Some people include just the higher one, but companies often want your overall GPA
 - Unclear what counts towards a “CS GPA” – just “CSCI” courses? All courses counting towards your degree?
- Some companies ask for transcripts
 - Usually, making a PDF of the unofficial transcript on Banner is sufficient
 - ✦ Ask if this is OK or if they want a signed and stamped official transcript from the University

Experience



- **Stick with relevant accomplishments**
 - A few off-topic accomplishments are okay if they're really impressive, demonstrate leadership skills, or are tangentially related to the work you want to do
 - You may have more off-topic accomplishments when you're just starting – that's OK!
- **When possible, quantify your accomplishments**
 - EX: If you were a TA, quantify the number of students in the course, the number of office hours/labs held per week, what your specific responsibilities were

Projects



- Describe your role and contribution to the project
- Discuss the specific technologies and skills you used (such as programming language)
- Provide a link to your project if possible
 - You can just create a website with a description, screenshots, and a download link. Doesn't have to be fancy. You don't need your own domain name either!

Skills and Interests



- What programming languages should I include?
 - Any that you've worked with a reasonable amount!
 - Can distinguish between proficiency and familiarity
 - Don't call yourself an expert
- What about other technologies?
 - Can include other technical proficiencies if you choose
 - Leave out MS Word and basic computer knowledge
- The rest of your resume should complement this
 - Each project listing should mention languages/technologies
- Include interests at the bottom
 - Can help start conversations with interviewers

Formatting



- Talk in bullet points, not paragraphs
- Use action words
 - “Developed...”
 - “Created...”
 - “Led...”
 - Etc.
- Stick to 1 page!
 - It’s ok to mess around with your margins and font size
- Order and weight your accomplishments
 - More recent things should go first
 - Bigger things should get longer descriptions

Get it Reviewed!!!



- At the very least, have someone proofread it
- CareerLAB
 - Walk-in hours Tuesday/Wednesday/Thursday 1:30-3:30
 - Caution: Not everyone is an expert in the tech industry
- Recruiters and engineers from companies often set up resume review appointments
 - Check out the IPP calendar and WiCS emails!
- Upperclasssmen can help too!

What if I have nothing to put on my resume?



- Freshmen and sophomores can usually get away with mentioning a few noteworthy things from high school
 - Best to remove this after freshman year if possible
- Look for opportunities outside of class
 - Research, independent projects, TAing, extracurriculars
- Don't worry if you don't have a ton of experience as a freshman or sophomore
 - Focus on getting experience now so you'll have something to brag about later

Finding Opportunities



OK... SO I HAVE A RESUME. NOW WHAT?

The Job Search



- Lauren Clarke emails about various recruiting events and job postings for the CS department
 - Read them!
 - Go to tech talks!
 - Go to recruiting talks!
 - They have free food!
- Fall and spring career fairs
 - Hand out resumes, collect swag
- Think about companies whose products you like to use, and see if they offer internships
- Apply to lots of places and see what happens
 - Most CS jobs don't require cover letters, so it's not much additional work

Opportunities for Freshmen and Sophomores



- One week programs
 - Google Android Camp
 - Google Chrome Academy
- Internships
 - Microsoft Explore
 - ✦ Try out software engineering, test, and product management
 - Google Engineering Practicum
 - ✦ Application closes 1/31/2014
 - Facebook U (freshmen only)
- Research
 - Email a professor
- Artemis (Brown CS outreach program)
 - Teach girls in Providence schools about computer science
 - Only open to female students
 - Application due 12/3/13

Technical Interviews



SHOW YOUR KNOWLEDGE!

Overview



- There are typically two rounds of interviews
 - First round: Phone screen/on-campus interview
 - Second round: Usually another set of interviews on phone or on-site
- First round interviews
 - Usually substantiate your resume, determine your interest in their company, and test skills with a technical question
 - See if you're worth interviewing again
- Second round interviews
 - Evaluate whether you're worth hiring
 - More in depth technical questions
 - Usually a series of interviews

Interview Questions



- These will depend on the position you're applying for
- The basics
 - Tell me about yourself.
 - Why are you interested in this company?
 - What questions do you have for us?
 - ✦ If you're not sure, ask about what the interviewer does – people like talking about themselves
- Software Engineering
 - Many focus only on technical questions
- Product Management
 - Give an example of a product you think is well designed
 - How would you design....?

Resume Driven Questions



- Remember, anything on your resume is fair game
- Expect questions about classes you have taken and projects you have worked on
- Elaborate on your role in various projects
- Talk about why you enjoyed working on a certain project
 - Show passion and excitement about technology

Coding Questions



- Listen carefully to the question
- Ask for clarifications
- **Think out loud** and explain stumbling blocks as you encounter them
 - Nobody expects you to know everything immediately
 - It's ok to say “My first instinct is to think about this in ____ way. Let me think this through and see if this works” and then discuss
- Consider possible solutions before jumping into one
 - Compare run time and space requirements
- Remember to account for edge cases
- Write clean code, but feel free to clean it up later
- Run through test cases
 - Try to find your own bugs
 - Don't worry if you miss a bug – once they point it out, try to fix it!

Coding Questions (ctd.)



- If they ask you something you have no way of answering, tell them. Don't try to make things up.
 - EX: If they ask about virtual memory, and you've never taken a systems class
- Relax and be confident
 - The interviewer wants you to succeed!

Sample Coding Questions



- Reverse a linked list
- Compute all permutations of a string
- Given a tree, return whether that tree is a BST
- Common topics (often asked indirectly):
 - String manipulation
 - Hashtables
 - Trees
 - Linked Lists
 - Sorting algorithms
 - Big-O

What the heck is that stuff?



- If you're a freshman applying for a freshman-specific internship program, most companies will not expect you to know all of that!
- Questions may be basic coding tasks or logic puzzles and why you are interested in computer science/ what you want to do with it

Design Questions



- If you're applying to be a Product Manager, you should expect more design questions than coding questions
- How to respond
 - Ask clarifying questions – don't assume anything
 - ✦ Consider the user's needs and your resources
 - Work out what your requirements are
 - Turn these requirements into specifications

Sample Design Questions



- Design an ATM for an international airport.
- How would you design a refrigerator for the blind?
- If you wanted to implement X feature, where would you get the data from?
- Think of a non-technical product you think is well designed. What could you improve about it?
- What is your favorite web site interface? Why? How would you improve this interface if you were the PM responsible for it? How would you measure the success of your improvements?

Preparing for Interviews



- **Research the company**
 - Especially important for smaller companies – they want to know that you're interested in them
- **If you're applying to be a PM**
 - Research industry trends – start reading tech blogs
 - Examine and evaluate various products (technical and non-technical), think about their user interfaces
- **If you're applying to be an engineer**
 - Review your data structures and algorithms
 - Work on practice questions (I recommend *Cracking the Coding Interview*)
 - Do mock interviews!
 - Seriously. Do mock interviews.

General Interview Guidelines



- Dress depends on the company
 - Many large tech companies really don't care – t-shirts and jeans are often fine
 - Financial companies may expect suits
- Be polite and friendly
- Play to your strengths
- Show passion and excitement about the company and the position

Misc. Tips



- Don't only consider the “big” tech companies
 - Those are great, but you should also consider startups and decide what's best for you
- Ask upperclassmen for advice!
 - You can email me at julie_mond@brown.edu
- Check out <http://cs.brown.edu/~kit/resume/> for more resume tips

Pep Talk Time!



WHO'S AWESOME?

You're Awesome

Pep Talk Time!



- Apply even if you think you have a slim chance
 - Don't disqualify yourself by not trying.
 - What's the worst that can happen?
- Getting rejected does NOT mean you're not smart or good enough
 - Sometimes you make mistakes, sometimes the interviewer makes mistakes
 - You're great! If someone doesn't want you, it's their loss. Just keep trying
- Everyone's first interview kind of sucks
- There are plenty of opportunities for CS internships

The End!



QUESTIONS?