CMPT 276 Class 17: Teamwork and Professional Practices

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Simon Fraser University
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Today's Topics

- **Teamwork**
  - Why it's important
  - How to be a more effective team
  - When teams don't work out
- **Getting Started (Professionally)**
  - Finding work
  - Life in the modern tech workplace
  - What sort of jobs are out there

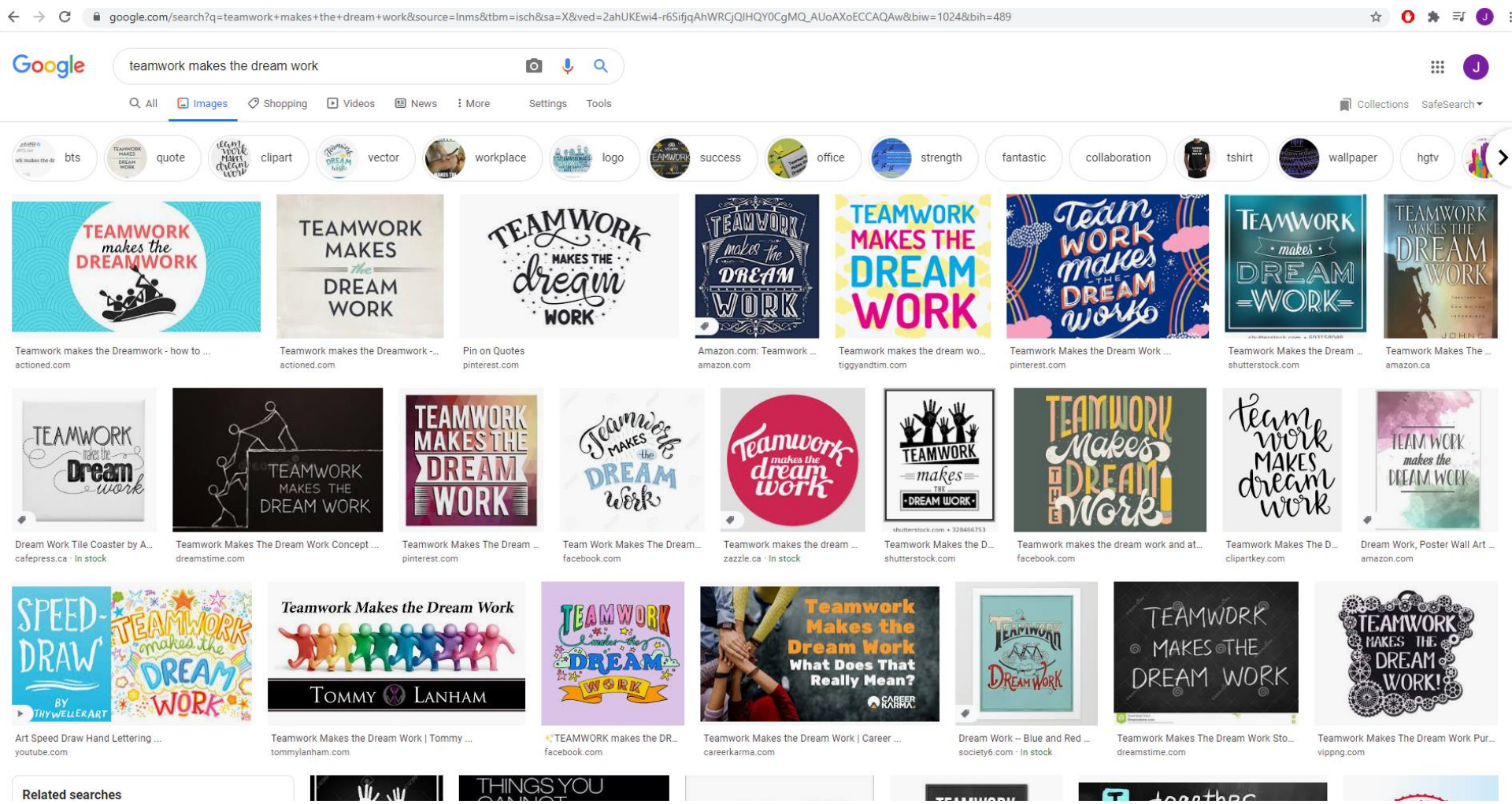
A Group vs. A Team

- **Groups** are just a number of people working on the same problem, but not necessarily working together.
  - Ex: Programmers in the same office, or a study group for a midterm.
- **Teams** have shared objectives, shared decision making, and require trust to operate.
  - A social state, not a kind of employment.

Advantages of Teamwork

1. **Tackling larger projects.**
   - Able to effectively break down large tasks.
2. **Producing higher quality work.**
   - Easier time tapping each others' abilities.
3. **Better learning opportunities.**
   - Teammates are more forthcoming about new topics.
4. **More responsive to change.**
   - Reacts better to additions and departures.
5. **Stronger sense of commitment.**
   - Raises morale and slows burnout.
6. **You might even like each other!**

Don’t Take My Word For It…



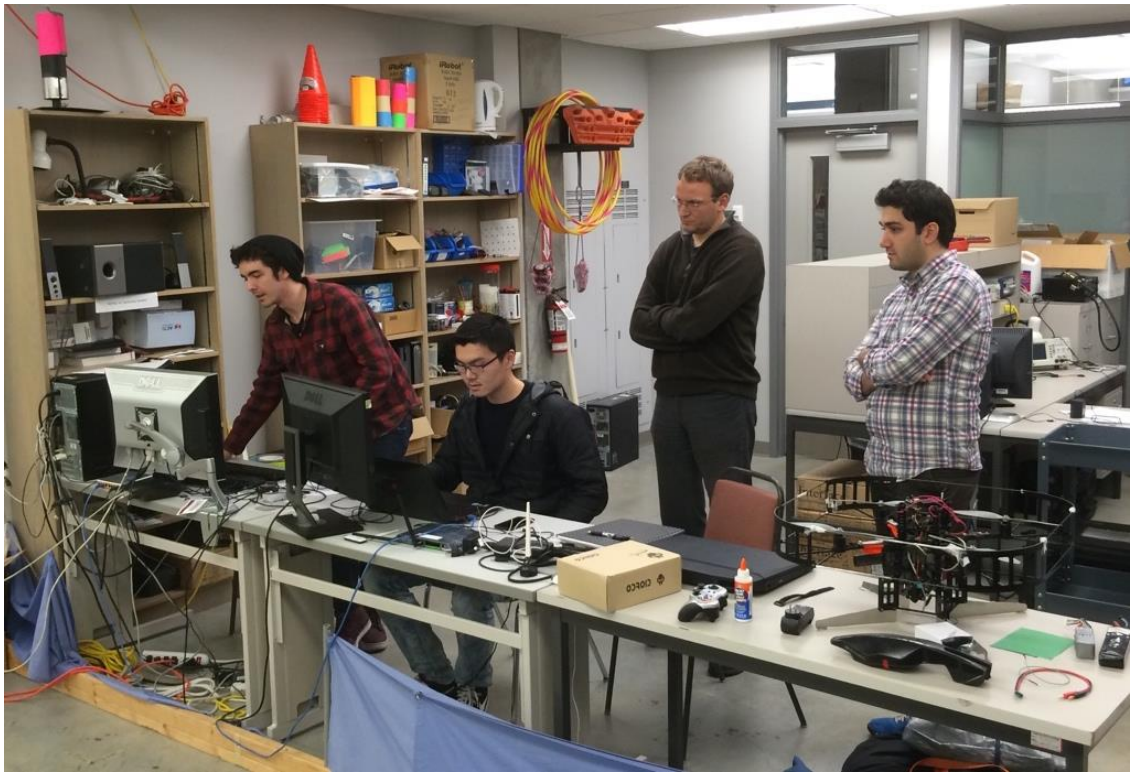
Teams Aren’t Always Possible

- You **don’t usually get to pick** your group or your coworkers,
- Some groups **just don’t click**, and even effective teams can fall apart over time.
- Watch out for **managers trying to force teamwork** to happen in order to exploit it.
- Have a **strong sense of your individual responsibilities** first, before reaching out.

The Life Cycle of a Team

- **Team Formed**: Introductions, polite first impressions.
- **Early Days**: First attempts to cooperate made, obstacles to teamwork emerge.
- **Normalized**: If obstacles overcome, team establishes an effective rhythm.
- **Productive**: Team does its best work.
- (Bonus) **Ascendant**: You are now In The Zone.
- **Adjourning**: When the work is over and the team winds down.

Different Types of Teams: Grad Student Labs



- Students have the same supervisor but often work alone or in pairs. Loose affiliation, high camaraderie.

Different Types of Teams: Startups

- The whole company is a single team. Success depends as much on personal relationships as product. High risk, high reward.

Different Types of Teams: Government

[Image request pending approval by Public Communications Office, pursuant to budgetary appropriations by Oversight Committee. For updates on image status, please submit a request to the assistant undersecretary for request updates.]

- Stable, long-term employment, small cliques and slowly-cultivated relationships. Very by-the-book and procedural.

Different Types of Teams: Corporations

- Multiple groups and teams within the organization, moderate turnover, difficult to find a stable team environment.

Credit: https://en.wikipedia.org/wiki/Googleplex

Basic Team Rules

- **Mutual respect** is fundamental, and takes time to grow.
- Give **constructive criticism** of an idea or work, not the person.
  - A two-way street, **accept criticism** of your work without becoming defensive. Not always easy.
- **Keep your commitments**, own up quickly when you fall short.

More Basics

- **Communication**
  - Everyone has their say, but not their way.
  - Everyone should be able to speak and participate equally.
  - One person speaks at a time.
  - Don’t just look at your phone while other people are talking.
  - Be brief and on-topic.
- **Meetings**
  - Be on-time and present (again, not on your phone).
  - Don’t do your work during the meeting itself!
  - The shorter the meeting, the better it went.

Team Decision Making

- **Inextricable from the material conditions** behind the team – if someone owns the company or outranks the team members, will always shape how decisions are made.
- Agree on a **decision-making method** up-front.
  - Voting is good, roles are good, but address rank.
- **Don't avoid conflict**, especially early on.
  - Bring up issues instead of letting resentment fester.
  - Also watch out for group-think; play Devil's Advocate.
- **Respect differences of opinion.**
  - Time can soften disagreements.

When Teams Don’t Work

- **Communicate** to your teammates when a team isn’t working, but be ready to **recognize if it fails**.
- Know how you **individually relate to your job responsibilities**, be wary of working conditions that are only possible with effective teamwork.
- “Trust, but verify” – documentation, emails, commit histories, **provide a record** to refer to when evidence is needed.
- If you’re not functional even just as a group, work on an **exit strategy**.

Next: Get a Job!

- The tech industry is part of the **shrinking number of career paths with relatively decent wages and job security**, even moreso now.
- Nevertheless, **good jobs don't fall out of the sky** – there's a wide variety of work in the field, as well as a lot of bad options to look out for.

“It’s not what you know, it’s who you know”

- True of tech as well, **most jobs come from personal relationships** due to the need for trust.

Credit: https://www.wired.com/story/the-coronavirus-could-put-an-end-to-handshakes/

First Steps into the Working World

- **Co-operative Education ("Co-ops")**: Work opportunities through the university before you graduate.
- **Teaching/Research Assistantships**: Working at the university, helping either run courses or labs.
- **Startups**: Grab some friends (and some equity).
- **Freelance**: Taking odd jobs and contract work.
- **Internships**: Temporary/fixed-term, low/no pay, working to build your resume and network.
- **Entry-Level Positions**: Large companies often advertise positions specifically for new grads.

Square One: Your Resume

- *Get Help!*
- **Lock in your references** early, yes I know it's painful, they expect to be asked.
- Always **include a cover letter**, and always personalize it as much as you can to the opportunity.
- SFU Student Services Career and Work Centre: http://www.sfu.ca/students/career.html

Portfolio

- A **collection of your work** that prospective employers can browse.
- A **GitHub account with public repositories** allows them to see your coding style, how you write tests, the range of your experience, etc.
- Curate your collection – a sample of your best work, not just every school assignment you've ever done.

Networking

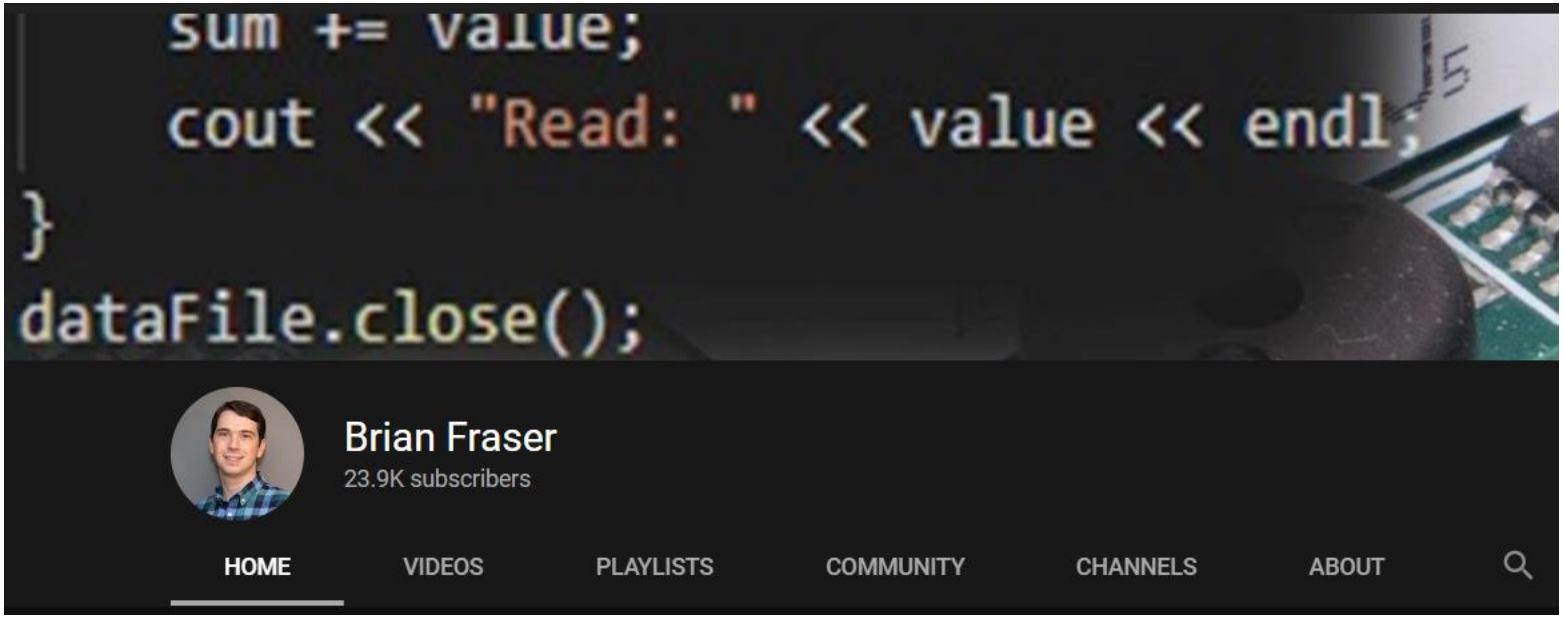
- Attend **Hackathons** with a personal project to show off your interests.
- **Jams** (game jams, code jams, etc) provide competitive platforms to gain attention.
- **Open-Source contributions** are a great way to build your profile in the community.
- **Job fairs and conventions** used to be a thing.
- Major companies **sponsor their own events**, like Microsoft's Summer Garage or Google's Summer of Code.

LinkedIn and Online Job Search

- Set up and develop a **LinkedIn account** well before you actually start looking for work.
- Don't be shy about **adding everyone** you can think of, it's a networking platform.
- Allows you to **blanket online job postings**.
  - Unfortunately, **so is everyone else**. Cold-calling isn't very effective when every posting has dozens or hundreds of applicants.
- It's not the only place jobs are posted, be sure to **look at different employers' actual websites**.

Social Media

- Building a **personal brand** is an effective way to increase your profile.

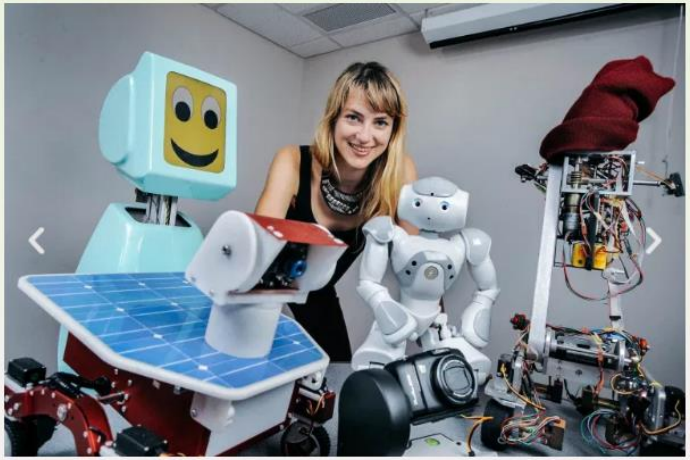


Marilyn Monrobot

ABOUT
PROJECTS
PUBLICATIONS
NEWSLETTER
CV
CONTACT

VISIT NEW WEBSITE

ABOUT



Dr. Heather Knight is an Assistant Professor of Robotics at Oregon State University. There, her CHARISMA research group uses methods from Entertainment to bootstrap the development of Social Robots. Their research interests include minimal social robots, robot ethics, charismatic machines, and multi-robot/multi-human social interaction.

She also runs Marilyn Monrobot, a robot theater company with comedy performances and an annual Robot Film Festival. Past honors include robot comedy on TED.com, a robot flower garden installation at the Smithsonian/Cooper-Hewitt Design Museum, and a British Video Music Award for OK GO's "This Too Shall Pass" music video, featuring a two-floor Rube Goldberg Machine. She was named to AdWeek's top 100 creatives in 2017, and Forbes List's 30 under 30 in Science in 2011.

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ROBOTS

- CMU ROBOT CENSUS
- ROBOT IN THE WILD
- AXEL ROVER
- THE SENSATE BEAR
- TRISK
- ROCO
- NAO (ALDEBARAN)
- THE HUGGABLE

ELECTRONIC ART

- OK GO RUBE GOLDBERG MACHINE
- STAR DUST
- FIBEROPTIC TUBEWORMS
- PLASMA GLOBE ARRAY
- CYBERFLORA
- THE CLOUD

TECHNOLOGY

Credit: http://www.marilynmonrobot.com/timecapsule/about/

Minister Kirsty Duncan visits the SFU ROSIE Lab and Autonomy Lab

April 09, 2018

Credit: https://www.sfu.ca/fas/news-and-outreach/years/2018/minister-kirsty-duncan-visits-the-sfu-rosie-lab-and-autonomy-lab.html

Brand Building for Beginners

- Twitter accounts, Youtube channels, blog posts, podcasts, interviews, all of it can help you in indirect ways.
- Selling yourself this way can be personally corrosive, so be mindful of how much you engage with social media. **Don't "chase clout" into becoming insincere**.
- **A word of warning** – companies will absolutely comb your social media presence, beware of controversy and protect your reputation.

Rank and Seniority

- **Intern**: The position is temporary, like a probationary employment.
- **New Grad**: Absolute beginners, and *only* absolute beginners.
- **Junior/Entry Level**: “Real” position, still expects ~2 years of experience.
- **Intermediate/Associate**: The bulk of positions, ~5 years.
- **Senior**: Industry veterans, team leaders, managerial roles. +10 years.
- These general categories do not directly translate to your position in the organization, they’re relative terms for hiring purposes.

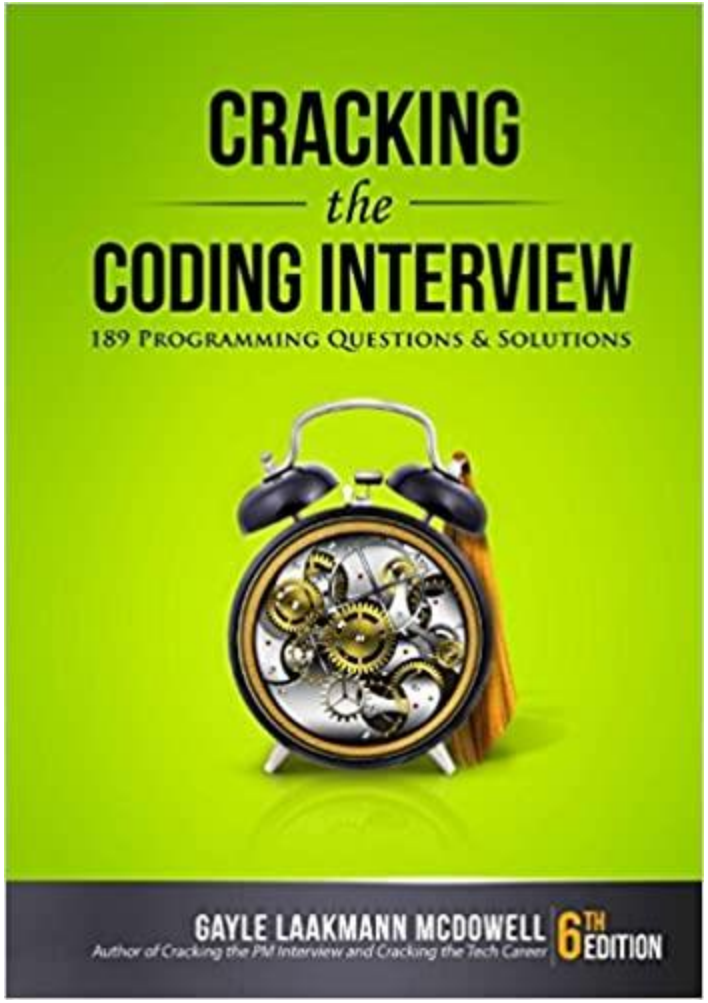
The Interview Process

- **Initial Screening**: Brief phonecalls to verify your interest and availability.
- **Sit-Down Interview**: Longer conversation with your potential boss and a technical advisor.
- **Technical Interviews**: One or more challenges to establish your skills.
- **Offers and Negotiation**: Coming to terms on pay, hours, and responsibilities.

Preparing for Technical Interviews

- Normally a time-limited set of programming problems. You'll know the language going in.
  - Sort of an arms race – since other applicants are training and driving up their scores, competition can force you to do so as well.

Reading Up



- Books like *Cracking the Coding Interview* by Gayle Laakmann McDowell give you many of the common problems and solutions.

Credit: https://www.amazon.ca/Cracking-Coding-Interview-Programming-Questions/dp/0984782850

Practice, Practice, Practice

- Websites like **HackerRank, CodeChef, and LeetCode** let you train on mock technical interviews.

You're Hired! What Now?

- **Hitting The Ground Running**: New jobs always involve a lot of learning and adjusting, and rarely include much explicit training.
- **Under-Promise, Over-Deliver**: Expectations management is the key to a good impression.
- **Fake It 'Til You Make It**: Imposter syndrome is rampant, projecting confidence until your real feelings catch up *might* work… just be careful of the stress.
- **Expect To Move On**: Startups rise and fall, projects end, contracts close. Even permanent positions have a lot of internal movement.

Recap: The Finishing Touches

- Turning a group into a **team** takes work and isn't always possible, but can unlock **greater productivity** than you could achieve on your own.
- Teams have their own **dynamics and life cycle** apart from whatever group they're built on top of.
- Finding a job in the tech industry requires **connections, work experience, a strong portfolio, and a lot of searching**.
- The hiring process involves **rounds of interviews and technical challenges** worth training for.
- Landing a job is only the beginning for your career, must **grow into it** and be **ready for the next job**.