

Giving Yourself Options with Interdisciplinary STEM

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Part II: General Thoughts

WARNING: Be skeptical of
everything I say... I'm not
necessarily right!

Talk to Many People

- The best way to really learn about what options exist is to talk to a lot of people.
- Be careful who you take advice from. Judge whether they actually know what they're talking about.
- Even if they're successful, their perspective is limited by their own limited experience, which may have been under different conditions.
 - This applies to all of us, too.
- Bottom line: Talk to many people, but don't blindly trust any one person.
 - An exception is perhaps your family when it comes to decision-making—they may know you better than you! So collect information from everywhere, and discuss with them.

Get Information

- What are today's salaries in particular jobs?
 - Be aware that they may unexpectedly change drastically, up or down, even within a few years!
- What are the hours like?
- Where do most people work?

World is Changing Fast

- Largely due to STEM!
 - So you can create the change and ride the wave.
- A huge reason that you must get a knowledge base that lets you adapt.
- Since we don't know what will happen, don't decide things solely based on either today's conditions (salaries, etc.) or someone's predictions, but account for your own tastes and maintain flexibility.

The Technology Market is Cyclical

- We're in good times right now.
- Bad times will most probably be back sooner than later.
- Don't choose a particular field just because it is in fashion now or avoid it just because it isn't in fashion now.
 - That said, be realistic and make well-informed choices.
 - When I was in college, they recruited us in limousines one year, and revoked offers a few months later.
- Again, be flexible!

Prediction is Hard

- Not only are things changing, but people can't guess how.
 - Just look at recent history to see that it is true, in things big and small.
- Be wary of anyone that is sure of:
 - What technology will pop up in the next 5 years
 - What your job market will look like a year from now
 - A few year's ago, it was, "Good times, RIP." Since then, software salaries have exploded.
 - What the economy will look like 6 months from now
- Your career path cannot be set in stone ahead of time.
 - Unless you go into medicine, but even then you will have to adapt to changing laws, economics, and breakthroughs.
 - Make the most where you are! I would have been voted "Least Likely to Make a Reality Show" if a vote was held before I did.

Always be Learning

- STEM is progressing so fast that you must always be learning to stay abreast.
- You won't do a good job of that unless you decide to enjoy it.
- Learn outside your field, not just in it, since fields are merging all the time anyway.

College Subjects

- Learn probability theory and basic statistics
- Some programming background is essential, even if you don't want to work in STEM directly
- At least get first year physics, chemistry, and biology
- Read, both to learn and to learn how to write
- If you have that base, you can specialize more in graduate school
 - Unless you have another urgent opportunity, seriously consider a Masters (full or half time)
- If you get the broad base of subjects to the level that you can use them, you can do almost anything in STEM

Undecided Majors

- If you have to decide your major upfront and have no idea what, choose computer science or computational science.
 - Note that others may disagree with me!
 - The reason I suggest it is that it gives you the most options later. You can figure out other interests along the way and then pursue one of them (whether science, engineering, or other), or just use your computer science purely.
- If you know you want engineering, but don't know what, choose mechanical engineering, electrical engineering, chemical engineering, or computer science
 - Again, because they are broad subjects that can lead into civil or bioengineering, etc..
- Ignore all of the above if you do know what you want.

Do Research

- Once you know you're majoring in STEM, seek out research opportunities
- Good to find something that interests you, but probably even more important is the professor
 - Try more than one thing until you find something you like
- Sometimes you'll even get paid

Do Internships

- Summer school is fine once, but use other summers to get some experience.
- Even internships you dislike will teach you.
- What you learn will stay with you.

Variety of Work

- Early in your career, try out both startups and big companies
 - Very different!
- Startups will let you do a variety of tasks
- Be bold about asking to do more
- Find your strengths

Globalization

- World is becoming ever smaller
- STEM fields are perhaps the best suited to international living, if that's something you care about
 - Universal language
 - Relatively minimal regulation
 - Especially if you don't have family experience abroad, travel when you can
- STEM is also best suited to staying in the Bay Area!

Make Good Friends

- Above all, choose good people and be good for its own sake, but also remember that networks last into your professional career
- Friends from college matter
 - But alumni networks are overrated
 - Where you go to school is likely less important than who you become your friends in that college!
- Lot of luck, but can help by putting yourself in positions (like certain courses or groups) where like-minded people tend to be
 - Doesn't mean don't be friends with different-minded people too!

Friends from Monta Vista

- Friends can give you current information.
 - A lot of how learn about applying to college, etc..
- Easier than ever to keep in touch.
 - So can give you information in college too.
- Some of your friends will probably still be your friends a decade from now.
 - Job referral from your high school friends happen.
 - And much more: I still play basketball almost weekly with such friends, I'm giving this talk because a friend from Monta Vista days asked me, etc..

Enjoy

- No explanation needed.

Questions