Academic Job Search: From Failures to Success

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April 19, 2020

Abstract

This note records my tenure-track faculty job search experiences in electrical & computer engineering (ECE) during the period 2017 Fall - 2020 Spring. After countless failures in the very first two cycles of my job search, I finally struggled to land on a tenure-track faculty position at the University of Michigan, ECE department in 2020 Spring, in the middle of the coronavirus crisis. The initial setbacks are painful, but they are invaluable experiences to learn and grow. Academic job search can be very stressful and painful, I hope this note to be helpful for future academic job hunters by sharing my own experiences.

Acknowledgement. I would like to express my sincere gratitude to everyone who encouraged and helped me during those difficult and challenging times. First of all, I am indebted to my Ph.D. advisor Prof. John Wright (Columbia U.), spending so much time and effort with me on my research and career development. I would like to deeply thank all my letter writers, Prof. Yuxin Chen (Princeton U.), Prof. Carlos Fernandez-Granda (NYU), Prof. Arian Maleki (Columbia U.), Prof. Yi Ma (UC Berkeley), Prof. Trac D. Tran (Johns Hopkins), and Prof. René Vidal (Johns Hopkins), for their strong support of my job search, even I failed so many times. I would also like to thank my all colleagues and friends, especially Prof. Yiwei Dou (NYU), Dr. Tingran Gao (U. Chicago), Prof. Yuantao Gu (Tsinghua), Cong Han (Columbia U.), Prof. Shengxi Huang (Penn State), Dr. Han-wen Kuo (Columbia U.), Prof. Rui Liu (Kent State), Prof. Shuyang Ling (NYU Shanghai), Sheng Liu (NYU), Dr. Wei Liu (Tencent), Xiao Li (CUHK), Dr. Shang Li (AT&T), Prof. Gongguo Tang (Colorado Mines), Prof. Ju Sun (U. Minnesota), Dr. Guolong Su (Google), Dr. Gang Wang (U. Minnesota), Prof. Zhangyang Wang (TAMU), Prof. Min Wu (UMD), Dr. Chong You (UC Berkeley), Prof. Ming Yan (MSU), Prof. Jiangfan Zhang (Missouri S&I), Dr. Le Zheng (Aptiv), Dr. Pengcheng Zhou (Columbia U.), Prof. Yuqian Zhang (Rutgers), Yuexiang Zhai (UC Berkeley), Prof. Zhizhen Zhao (UIUC), Prof. Zhihui Zhu (Denver U.), for their advice and encouragements. My thanks to Prof. Laura Bolzano, Prof. Jeffrey Fessler, and Prof. Lei Ying at the University of Michigan, for providing me the wonderful interview opportunity that I never imagined of, and their appreciations of my work. Finally, my thanks go to my family, for their unconditional support of pursuing my intellectual freedom and academic dreams.
1 Introduction

Becoming a professor is my dream since my childhood, where I started my faculty job search in my last year of Ph.D. study at Columbia University EE in 2017 Fall, with encouragement from my Ph.D. advisor Prof. John Wright. My research is mainly at the intersection of signal processing, machine learning, numerical optimization, and data science, which is quite a hot topic nowadays and there are plenty of faculty job openings. However, my first round of faculty job search is a complete failure. I submitted around 40 applications, and on-site at 4 top universities in the US but none of them gave me an offer. I was just not well prepared for the job, where I can still remember several embarrassing moments that I handled very badly about common interview questions that I never thought about during my onsite. Some people also questioned the breadth and applications of my mathematical theory in engineering problems. It was a painful moment, but more pains come during my second round job search. I immediately restarted my job search again in the following year 2018-2019 when I just become an independent postdoc at NYU Center for Data Science, submitting over 60 applications. I got around 12 phone interviews, and only 3 of them turned into on-sites. Again, none of them gave me an offer because my research portfolio looks almost identical to my last round search. In some of the interviews, people are also questioning my research independence and my ability to develop an independent research program, given all my work is with my Ph.D. advisor. After two rounds of failed job searches in 2019 Spring, I was really depressed, where my research stagnated during the job hunting and I even questioned my ability to ever become a professor. I felt so embarrassed to meet my colleagues and friends, telling them that I failed my faculty job searches so many times.

Nonetheless, I haven’t given up and things turned around in my third round of job search. I can still remember many touching conversations with my Ph.D advisor analyzing my failures and how to learn from them. I am also very grateful for the intellectual freedom in my postdoc position without a formal senior mentor, that I started to work more independently and mentor students. In 2019, I was also very lucky to find several wonderful collaborators, and get several papers published on top machine learning conferences before the job hunting started again. I also wrote grant proposals as Co-PI and started organizing workshops. I attended various conferences and workshops building up connections, where I was fortunate to introduce my work to Prof. Jeffrey Fessler in the IMA Computational Imaging workshop in 2019 Fall, who I believe gave me the chance of interviewing at the University of Michigan. I made up most of my weakness and hard work paid off. In the third round of my job search, I submitted over 150 applications all over the world, with 20 phone interviews and 12 (I canceled 3 due to lack of energy) onsite interviews. I obtained at least 6 offers (some are suspended due to hiring freeze). After countless failures, I struggled to land on one faculty position that I am very happy of. I never easily gave up upon failures – my take on every failure is that I should find new ways and try harder next round. Finding a faculty position is never an easy job, it involves many years of preparations and even luck. Many things are uncontrolled and can easily go wrong. I hope my experiences can provide inspiration for those that are still struggling with their academic job search. There is always light at the end of the darkest tunnel.
2 Preparations

There are many materials online that I found very helpful during my job searches [1–3].
The job application itself usually consists of five components: your CV, a cover letter, a research statement, a teaching statement, and 3-5 letters of recommendation. For the first time applicants, these need months of preparation. In the following, I will discuss them in more detail. In general, you need to provide a comprehensive package demonstrating that you can develop an exciting and independent research program into the future. But there is no golden standard rules behind any of these materials – you need to understand that the search committee on the other side are also humans, when selecting candidates there are some luck and randomness due to bias and personal tastes.

On the other hand, what I learned from my job search is that every school is looking for the best candidates on the job market. This seems like a market that the winner takes it all – if you look at the faculty candidate seminars at every top school in the spring, for the same track the schools (ranking from top 5 to top 30) almost interview the same set of candidates with slight variances. But fortunately, the top candidate only has one choice to pick, so being around top 10-20 should still be good. If you feel that your package is not around the top 20 candidates on the market in your field in the same year, your chance of even getting an onsite at top 30 schools is slim. Therefore, before getting on the academic job market, it is a good idea to look at the past seminars in your area to get a sense of how competitive your overall package is. The lessons I learned from my failed job search is that you need to be mentally ready and competitive before getting on the market (job hunting is very stressful and time-consuming). Once you failed the onsite (even the phone) interview, it is almost impossible that the same school will give you a second chance in the following 2-3 years.

2.1 The Keys

Many may argue that you need to graduate from a top school/program to find a decent faculty position. This is perhaps true to some extent, as top schools are usually well-recognized and have a better alumni network. However, I believe the more important thing is you as a person:

- **Have you done solid work in the past that has been well-recognized in your field?**
- **Are you able to articulate the significance of you work to a broad audience in a few sentences that can be easily understood?**
- **Can you clearly present you work in a 45-min talk that are exciting to a broad audience within and beyond your field?**
- **Do you have a compelling research vision into the future?**
- **Will you be a charismatic colleague that everybody enjoys to work with?**

All these abilities can be cultivated through the Ph.D. program, by taking responsibility and showing leadership in your research projects, and by attending many conferences and workshops to present your work and interact with your colleagues in your field. It is understandable for junior students to work closely under the guidance of their Ph.D.
advisor. But in the senior years, you need to show more independence, what matters eventually are your ideas, your leadership, and your contributions to the field. I learned this lesson from a painful process during my first round job search. No matter what the school you are from, I believe these are the key characteristics that will lead to a satisfying faculty job for you and pave the way for future career success.

2.2 Applications

Usually the job postings start as early as mid-August where schools start to advertise their openings online roughly until mid-November. The application deadlines vary for different departments. For example, the deadline for applied math and operation research is usually quite early (e.g. early November), and they usually finish the search around March. For electrical engineering and computer science departments, the application deadlines are typically around mid December to early January, and the search is not finished even until the end of April.

Collecting job advertisement. For myself, the first step of the search is collecting job posts. For electrical engineering, there are major 5 sources that I rely on (most of them can be applied to other programs):

- AcademicJobsOnline. https://academicjobsonline.org/ajo
- CRA job announcements. https://cra.org/ads/
- Websites of individual departments.

Looking through these posts can be a tedious work, where you need to find and apply to the openings that match well with your research interest and agenda. For many departments, they usually have several specific search directions that they will mention concretely in the post. Usually for each direction they will invite 4-5 candidates for onsite. Some searches can be tenure-tack junior searches or open rank searches, where the latter means that the search be any rank ranging from assistant professor to full professor positions. Indeed, the open rank search is usually harder as you need to compete with senior people that are much more experienced. For top schools such as MIT and Stanford, their search can be completely open, that they just want to hire the most competitive candidates on the market without specifying any search directions.

Maintaining a updated personal website. As mentioned by [1], the first critical component of the job application is your personal website. It is very important to maintain an up-to-date website with you publications, research interests, source code releases, and so forth. Never assume that search committees will have your “official” application materials at hand – these days it is very easy to Google someone’s name and look at their projects and papers online. For that matter, always post your job application materials prominently on your website. In case someone is reviewing a set of candidates and cannot find your research statement, everything should be linked to
your website so that people can find it easily. For myself, I constantly updated my website https://qingqu06.github.io/ during the job search season, and even added a tracker to my website using https://clustrmaps.com/, so that I can see which school is reviewing my materials. My experience is that these webpage visit locations seemingly lead to quite accurate predictions for the interviews.

Publications, connections & recommendations. The most important thing that you want to show in your application package is the strong publication record that can easily stand out in comparison with your peers, simply because this is the most obvious implication for your academic success. This does not necessarily mean that you need to publish tons of papers. Although we are in an era of publication deluge, what I believe really matters here is the quality of your work, and the leadership that you build through your work in the field — keep in mind that there are some schools asking you to submit only 3 most representative papers of your own. It is very important that your work appears in top venues, having high impacts (e.g., highly cited), and you are the major contributor to the work (e.g. first or last authorship). For fresh Ph.D. candidates, having one good first authorship publication per year should be sufficient; for a postdoc, this might go to two per year. Moreover, you also want to show an upward trajectory of your research impacts through the publications — having several publications right before the job hunting season is important. People are hiring you not for your work in the past, but for the work that you can do in the future. Therefore, showing an upward publication trajectory could provide solid evidences for your success in the future.

The second important thing is your connections with people in the field, and where your recommendation letters come from. Your visibility in the field (e.g., the well-known people that you are collaborating with, and your family tree) may also play an important factor on the hiring side. The search committee are also counting the outside connection you have when you started as a young faculty. As many may recommend, before the job search starts, it is a very good idea to attend many related workshops and conferences to present your work and meet with well-established people in your field. From my own experiences, this is indeed very beneficial. Some of the important visits that I made in 2019 include visits to Prof. Yi Ma and Prof. René Vidal, where I delivered talks and got their letter supports. Again, I was also fortunate to meet with Prof. Jeffrey Fessler in IMA computational imaging workshop at U. Minnesota, which I believe led to the interview opportunity at the University of Michigan.

For the recommendation letters, one of the most important (and perhaps the easiest) recommendation to obtain is obviously from your Ph.D. advisor. It would be great if you can obtain strong letters from well-known people (full professors) in your field, where the search committee will weigh greatly on what these people say about you. It would also be very beneficial to have people who are outside your home institution who truly appreciate your work, indicating the broad impacts and recognition of your work. In general, letters from untenured faculty often weigh less than those from tenured. I would not recommend having all letters from assistant professors. As a fresh Ph.D. student, getting 3-5 letters can be quite difficult. When I started my faculty search as a fresh Ph.D., I found some of my letter support through attending workshops and delivering talks, and some of them from my Ph.D. thesis committee. As a postdoc, you can obviously obtain letters from your postdoc mentor as well. You also need to communicate with your letter writers at least one or two months ahead of the application deadlines such
that they can arrange those letters and submit them on time. It is also a very good idea to use https://www.interfolio.com/, such that your letter writers can just send one letter to the interfolio, and then you can request the letter directly from the interfolio to whatever place you apply to by paying a little bit fees.

The main materials. It is also important to understand that search committees at most schools get at least 200-300 applications per year, from all over the world, even for a single faculty job opening. So it is important to make sure your packages stand out. Your curriculum vitae, or a strong publication record, is the main thing that the search committee will have a closer look at. From my view, the cover letter, research and teaching statements matter much less, so do not stress over them too much. You can’t make up for a weak publication record with a brilliant research statement.

The cover letter is usually one-page description that summarizes the position and the specific direction that you are applying for, a brief introduction of your research, and the name of the people who is suitable for reviewing your materials. The letter needs to be “school-specific” (do not mistake the name of the school that you are applying for, otherwise it will get desk rejected!) of why you are applying to this school in particular.

Again, I believe that the curriculum vitae is probably the most important part of the application materials. Given the volume of the application pools, the search committee do not have time to go through every detail of each application. Make sure your resume stands out from the others. The very first impression they get from you is through your resume, which should provide a detailed summary of your research interests, publications, talks, service work, teaching credentials, mentorship experiences, references, and any other factoids that might be of interest to the search committee. You can find my resume here as an example


The research statement is one of the hardest parts of the application to get right. It is intended to serve two purposes: (i) to provide a narrative summary of your research contributions (and especially how they all tie together), and (ii) what areas you intend to work on in the future. It’s usually at most 3-4 pages long and needs to nail what your specific research “angle” is, why the area is important, what your track record is, and what your research vision is going forward. It is not a personal essay like you might have written applying to college or grad school – If the expression “when I was a child, computers always fascinated me” appears anywhere in your research statement, you are doing it very wrong. Nobody is going to hold you to working on the specific things you say you want to do for future research directions, but you should articulate a clear vision of what kind of direction you would take when starting a faculty job. This is important. Again, search committees are not hiring you based only on your track record – they are hiring you based on your potential to be a life-long colleague. They want to see that you have an independent and compelling vision for at least the first few years of your faculty job. If the best you can come up with is a couple of papers’ worth of extensions to your thesis, you are in trouble. Try to think of a three-to-five-year agenda that would get people excited to have you as a part of the faculty. My research statement can be found through the link:

The teaching statement is usually less important than the research statement for most of electrical engineering and computer science departments, although it might be important for other departments such as applied math and statistics. I believe most engineering fresh Ph.D. students have precious little teaching experience beyond a couple of semesters of teaching assistant work, so it is not very to say much about teaching. Still, do your best. If you have advised any undergraduate researchers or mentored junior graduate students, include this in your teaching statement, as mentorship is important as well. Finally, be clear about what kinds of courses you would be willing and able to teach. It’s not always obvious based on your research background – make it explicit in your statements.

Nowadays, there are more and more schools requesting for the diversity statement. I personally do not know how important this is. I just write one-page statement which state some past and future endeavours that I make about promoting the diversity, helping minorities within STEM program.

2.3 After the Application

Once you submitted the applications, a good idea of the next step is to make personal contacts. For each of the department that I applied to and excited about, I usually send emails to 2-3 people that are close to my research field, notifying them that I have applied. If they know you or appreciate your work, they will help to inform the search committee, helping your application to stand out from the application pool. This is especially true if you have personal contacts with them during past visits or meeting in conferences/workshops. This is why making yourself visible in workshops and conferences important before going on the job market.

3 Rocking the Interviews

If your job application stands out, it only gets you an interview but does not get you the job immediately. Keep in mind that the search committee are humans as well on, they want to find a charming person that is best fitting for their faculty search rather than simply counting on the cold numbers on your resume. Therefore, the interview is far, far more important than the application materials.

3.1 Phone Interviews

Given the development of technology, nowadays phone interviews become more and more common. In my first round of job search during 2017 Fall - 2018 Spring, I only get 1-2 phone interviews, where most schools bypassed this step and gave out onsite invitations directly. In my last two rounds of job searches, phone interviews became more and more popular, where I got 10-20 phone interviews for each round.

The phone interview usually last around 15-30 mins, and most of them are conducted via Zoom or Skype. Although this is not a formal onsite interview yet, it is still better to dress up, presenting a good picture of you in the video to give people a good impression. I find the following tips on the YouTube very useful

https://www.youtube.com/watch?v=rQwanxQmFnc.
The purpose of phone interview. From my own observations, I think the main purpose of the phone interview is to identify candidates who are the right fit for the search. Given the huge volume of the application pools, most committees nowadays prescreen a large set of candidates before onsite, without going into details about their research and teaching statements. They use the phone interview as a chance to learn verbally from you about your research, teaching and future research plans, to identify their best fit. On the other hand, they also use this chance to gauge your interest of joining them to reduce the chance of failing the search.

Preparing for the questions. Through the 30-min interview, the search committee will ask you a set of standard questions that they will ask for other candidates, so it is not difficult to predict these questions and make some preparations. A typical set of questions are:

- Can you tell me about your research (with layman language)?
- What is the work that you are most proud of? What is the impact of your research?
- What is your future research agenda in the next 3-5 years?
- What is your future group size? Where are you looking for fundings to support them? What will be your first funding proposal look like?
- Why do you think you are the right fit for our department? Who would you like to collaborate with in our department/school?
- What new/traditional classes can you offer to teach? What is your teaching philosophy? Do you have any teaching experiences?
- Why do you want to come to our university?
- Do you have any questions for us?

The following questions are rarely asked, but you still need to be a bit prepared:

- Why do you want a faculty job rather than going to the industry?
- How can you contribute to the diversity of our program?
- How can you compete with the peers in your field? How can your research be differed from your Ph.D. advisor?
- What is your research vision in the next 10-20 years?

There is no standard answers to all these questions, and they can be very personal. However, the underlying principle to address these questions is to be brief and clear to everyone even not in your field, making them feel excited about you. You need to think in the chair of the other side – when telling about your research (vision), you should assume minimum knowledge of the search committee in your domain, and address the questions using layman language with minimum background knowledge such that everybody can understand. You should also tell your research (vision) in a way that other people feel really excited about what you are doing (this is also important when you want to attract
students to work with you when you started the position). Keep in mind that many of the search committee might not be in your field, you should not go into every detail of your research – presenting a broad and exciting agenda to them should serve the purpose well.

In terms of funding, the search committee is not only gauging if you know the funding agencies, but more importantly they also want to know whether you have a plan to secure the funding in the future. One good way to address this is to demonstrate the importance of your research agenda within major funding agencies, and present some successful evidences that your research has been richly funded in the past.

Additionally, you should also be a little bit prepared about the potential collaborations within and outside the department. Again, the search committee are made up of persons, they want to hire people that can benefit them in the future. Going through every persons’ website in the department before the interview, and think about how to connect your research to them. This also shows that you did your research about the department, and your sincere interest in joining them.

For teaching, you should really think about what kind of new courses that you can offer to strengthen their curriculum, which will make people excited about you. In my case, I focused more on machine learning and optimization courses, which are nowadays in huge demand. I also indicate that I want to teach a deep learning course which can be very beneficial to the need of the department.

For questions such as why you choose their school, the answer can actually be standardized. Usually top schools at good locations would not ask these type of questions at all, because everyone wants to join them for sure. For other schools, I usually address the question from three points: (i) attracting high quality students, (ii) potential collaborations, (iii) low cost of living to focus more on research and mentorship.

In the last 3-5 min, the committee will turn around the table letting you to ask them questions. It is very important to prepare several questions – asking no questions could be very embarrassing, indicating that you are not interested in joining them. A typical set of questions include

- What are the future directions of the department? How does the college support the department?
- How to recruit Ph.D. students? Does the department have a strong or weak search committee for Ph.D. recruiting?
- What is the teaching load? Is there any flexibility in creating new courses?
- How about the working and living environment? City culture?
- What is the search/decision timeline?

You can ask this set of questions repeatedly during onsite interviews as well.

Keep in mind that an interview is actually a conversation between you and the interviewers, you and the search committee are gauging the mutual interests towards each other. If you do not get any of the questions clearly, you can try to rephrase their question in your own words to confirm. You could also pause your answer for a few seconds, and ask them if they follow the points that you made. Having a few pauses in your answers can be beneficial, which not only help the interviewer digesting your answers, but also give a little bit time to relax and think about your answers.
3.2 Onsite Interview

After the phone interview, usually you will be notified about onsite interviews within one or two weeks (at most a month). Faculty job interviews are generally one or two (full) days, depending on the size of the department. The main components are all very important: (i) the job talk, (ii) meetings with countless faculties, (iii) meetings with the chair, the dean, and Ph.D. students, (iv) chalk talk (some school), (v) breakfast, lunch, and dinner with faculties. All of these components are essential to getting a job offer.

Preparing the onsite interview. Doing an onsite interview is a very exhausting process. Two days of talking with all kinds of people can really wear you out, especially since you need to be “on” all the time. If you are doing an interview at several schools, try to avoid doing them back to back. I typically only do one interview per week. Each of these trips takes a lot out of you so that it is good to get home to recharge, even if just for a couple of days. Book direct flights whenever possible to minimize the chance of delays, and try to get on the earliest possible flight of the day so that you can have backup plans if you missed it. Also, it could be a very stressful time, so do not plan on getting any other real research work done during the interview season. By no means should you be trying to meet a paper deadline while interviewing. By the time you are interviewing, it is already too late for any new publications on your resume to affect the outcome of the job search.

For the whole process of the interview, you need to dress as formal as you can, that means you need to wear a suit and tie, with nice shoes and a belt. To make sure that the presentation goes smoothly, I usually prepare the pointer by myself with some backup batteries. I also prepare an HDMI to Type C converter such that my MacBook can be easily connected to the screen. I usually obtain the onsite schedule 2-3 days before the interview. I find it very beneficial to go through the website of each faculty on the schedule, knowing their educational background and research interests, finding potential research connections and detecting talking points. I usually make an excel list to mark down these points and bring it to the interview. Other than the slides for job talk, I also prepare a second backup slides, which briefly introduces my research and future agenda, funding plan, teaching plan, potential collaborators, etc. You need to understand that everyone is very busy, there will be faculty who cannot make to your job talk but will meet with you. Bringing the second slides is easy to introduce your work to them, and give them positive feelings about you. These slides can also be used in the chalk talk with search committee members.

The job talk. The job talk is often at the beginning of your interview schedule, and it is the most important part of the interview that you never want to screw it up. The job talk serves the dual purpose of presenting your research contributions to the department, as well as showcasing your teaching ability. The talk needs to be extremely well-rehearsed, technically solid, clear, entertaining, engaging, and instructive. If you give a bad talk there is no chance you will recover and end up with an offer, whereas few bad one-to-one interviews might not sink you. My tips of preparing a good talk are the following:

- **Attending as many seminars as you can.** One of the benefits at NYU for me is that we have great talks almost every day. I usually attend 1-2 seminars per
week, observing how other people deliver a talk. If I attend a bad talk, I often try to analyze and discuss with others where the talk went wrong. If it is a really great talk, I often take notes and try to learn from the parts of the presentation that I most appreciate. I also download tons of talks/tutorials on the YouTube and watch them when I commute to work everyday (I got this advice from Prof. Trac Tran), I find it a lot fun not only learning some new knowledge in my field but also how the famous researchers in my field present their work such that everyone can understand.

• **Breaking the talk into “thirds”**. In the first third of the talk (e.g. 10-15 min), you should lay out the problem space and provide a lot of motivations why the problems are important, where this part of talk should be easy to follow for everyone even outside your field. In the main third of the talk, you can provide a lot of technical details with high-level intuitions to demonstrate that you are the expert in the field. It is okay to lose some people outside your field here, but try not to lose the experts in your field. In the final third (e.g. 10-15 min), you should lift back up a level to explain the implications of the work and pointing out a compelling future direction, making the audience even outside the field excited about the work you have done. For me, in the final third I demonstrate several interesting applications derived from our theory using some exciting experimental results, projecting to a board class of engineering problems that our theory can be very useful.

• **Asking for advice from the people in your area who give good talks.** Another great tip that I learned is to ask advice from people who give great talks (that you are familiar with). When I was preparing my job talk, I got great advice from Prof. John Wright, Prof. Carlos Fernandez-Granda, Prof. Zhihui Zhu, and Prof. René Vidal, for which I enjoyed all their talks in the past. I iterated my talk with most of them, and got quite a lot of great feedback on how to make improvements. I significantly reduced technical details by replacing them with pictures illustrating the high-level intuitions and demonstrating my contributions in a boarder context.

• **Practice your talk with audience NOT in your field.** It’s important to remember that the job talk is not a talk to people in your area. The people in your area (say, machine learning or AI) already know your work – which is why you are interviewing there in the first place. The talk needs to appeal broadly to the rest of the department – to explain why your work is important, what the key contributions are, and to give them intuitions for how to solve hard problems in an area other than their own. To achieve this, I find it very useful to practice the talk with people with minimum knowledge in your specific field. I got a lot of the most helpful feedback from my roommate, who is an expert in signal processing but knows little about my work. He provided many great feedbacks that I never realized. One surprising thing that I learned is that people outside your small field often tend to put the wrong emphasis on the things that you regard them less important, where I made a lot of effort to adjust the highlights in my talk.

The final very important part of your job talk is **Q&A**. As a teacher, you should gracefully handle interruptions and questions. Do you make your questioners feel respected,
important, and intelligent? Or do you get all flustered, offended, and break down when challenged? When someone asks you a question, pay close attention and don’t interrupt. The entire audience is staring at you as you listen to the question, so don’t look annoyed, frazzled, grimace-faced, huffy, or nervous with closed body posture. Your questioner wants to learn more about your research, not to grill you. Even if they are firing up the grill on purpose, just pretend that they’re genuinely curious. If you react defensively, then the audience will subconsciously pick up on your negative body language. Below are some more detailed tips that I learned from others and my own experiences:

- In some cases that you are not sure nor clear about the question, you could rephrase the question in your own words and reconfirm with the questioner. You can also use this short period of time to come up with a good answer.

- If there are people challenging you or really want to piss you off, please do not act offensive. Just politely and respectively tell them that this is a very good question to think about in the future, and you are willing to interact with them offline.

- When people are asking technical questions, this shows their interest in your work. I often first zoom out from the question, providing a boarder view and some contexts of the question that every audience can understand. Afterwards, I zoom into the specific details about the question, and address them in an intuitive and respective way. I also try to interact with the audience by a follow-up question on whether I addressed their questions or concerns properly, trying to make interactions and connections with them.

Again, all these are easier to be said than done. My suggestion is to use every chance before the job hunting season to practice your presentation skills as much as you can. During the year of 2019, I have attended many conferences and workshops to present my work, and paid several personal visits. I found these practices are really helpful, where people asked many common questions that I never expected in the beginning and got invaluable feedback for improving my presentations.

**One-to-one meetings.** The one-to-one meetings take a very large portion of the interview. Usually, you meet with each faculty for 30 min (in some schools, you will meet several faculties together in one meeting). You rarely get a break during the day, so if you need to use the bathroom or grab a cup of coffee, just ask (everyone is happy to accommodate). Many of the people on your “loop” will be on the faculty hiring committee, and everyone (regardless of role) will be asked to provide feedback to the committee on whether they think you should be given an offer.

From my own understandings, the goal of these meetings is not to impress them – you have already given them an impression of your work through your job talk (If you have given a great talk, they will have a very positive feeling towards you) – but to show that you can be a good potential colleague that they love to collaborate with and enjoy having you for a very long time. Additionally, they are not looking to grill you about technical minutiae, when often their technical questions show genuine interest in your work. The most important things that I learned to do well in these meetings are (i) making connections with people, and (ii) being a great listener. The easiest of these meetings are with faculty in your area, since you already have some common
ground. The hardest is with people in completely different research areas. Below are a few detailed tips based on my own experience

- **To make connections**, I usually spend quite a lot of time ahead of the interview researching each faculty that I will meet with. By surfing their educational background and ongoing research projects, I often try to identify some talk points that my personal or research experiences can be connected with them. Most productive meetings that I had are ones that I found a lot of common/mutual interests with, and in those scenarios, they tend to provide strong support on my case. In many meetings, I intentionally identify and point out things that they are proud of, showing that I have done my research about the department – it could be impressive when a candidate comes in having done his homework, knowing a bit about the interviewer’s research and background.

- To be a great colleague to collaborate with, you need to show your genuine interest in other people’s work. The most effective way is to be a **great listener**. The most effective way is to ask questions about other people’s research and show your interest. When the person on the side is describing the research that he is excited about, a good way to be a great listener is to constantly ask questions and provide feedback based on your background knowledge. This is also a very good way to make connections with people that are far from your field. I found that this type of interaction often lead to positive feelings about each other, finding that our research is actually deeply connected. Conversely, it could show a negative sign when you only talk about your own research through the whole conversations, showing no interest in other people’s work. This could give the interviewer negative feelings that you are very narrow on your research perspective, and hard to collaborate with in the future.

In most of the interviews, you will invariably meet with someone who will be unable to make your job talk, so be prepared to give a 5-to-10 minutes overview of your research, or a mini job talk. This is where I find preparing the second slides very helpful. For my second slides, I condense my research into 3-5 minutes, with another 3-5 minutes about my future research agenda. When this type of situation comes up, I just grab my second slides, giving them a brief overview of my work and try to make connections with them through the course.

On the other hand, you should also take the opportunity to learn as much as you can about the department. After all, this is not a one-sided process: you should be evaluating the quality of the department and its faculty as well. In many cases, a one-third portion of the meetings turns into conversations that I ask questions about the department. For meetings with senior faculty, I usually prepare some standard questions to ask them repeatedly for each person that I meet with:

- **What is the growth trajectory of the faculty, what new areas or initiatives the department might be starting up?**

- **How does the department interact with different research clusters/institutions within the university?**

- **What is the tenure procedure?**
• Is there any mentorship provided for young faculties? How are new faculty oriented and mentored during their first year?

• What is the teaching load? Is there any flexibility in creating new courses?

• What are your secret weapons for funding and recruiting good Ph.D. students?

• What are your hobbies? Where does faculty live around the campus?

For meetings with junior faculty, I often use this opportunity to learn about the challenges they faced in their early years. After all, I will likely face those same challenges in the near future, so it is best to hear about potential pitfalls as soon as possible. To get these conversations rolling, I often ask

• What have you done during your first year on the faculty job that you are proud of?

• What surprised you most about this job so far?

• How do you find good students to work with in the beginning?

• How do you like the working environment so far?

• Where do you get support and mentorship from?

• How do you handle proposal writings?

These are universal questions to be asked throughout the interview. Everybody has different perspectives on these questions, so that you should repeatedly ask those questions through the course even you have got the answers from others. This also shows your interest in the department and your desire to learn from them as a potential young faculty.

Meeting with the department chair & the dean. Another part of the interview is to meet with the department chair and the dean of the college/school. Whenever you get the offer, it is usually the department chair initiate the phone call to deliver the good news and recommend you to the college, and the dean has the right to deny or approve the offer eventually at the college level (although he does not vote on your case at the department level).

Although these are important meetings, I usually do not get much from them. In most cases, the chair or the dean will give you abundant chances to ask them questions, gauging your interest in joining the university. If you are curious, you can ask questions about tenure criteria, fundraising expectations, or incentives for collaboration. In the meanwhile, they will use this chance to tell you how amazing the university is in various aspects. However, you should still be prepared that they will still ask you some common questions (such as those in the phone interview) to have a general feeling of you as a potential young faculty.
Mealtime conversations. For all the onsite interviews, faculty took me out to breakfast, lunch, and dinner. For some large departments, I even had two breakfasts, two lunch, and two dinners in one interview. Breakfasts and lunch are usually quick and casual, you can regard them as normal one-to-one meetings during mealtime, and prepare tons of standard questions to ask.

Dinner is the time that things get a bit tricky, when you are vulnerable after a full day of nonstop meetings. Usually, a couple of faculty will take you out to a local fancy restaurant, and they are still interviewing you – the main purpose of the dinner interview I believe is to get to know you as a person (in other words, they want to judge whether you will be a good colleague to get along with in the future). In many cases, the faculty will chat about their personal lives and funny experiences in the past with each other, and sometimes even forget about your existence. In those cases, I often try to get involved in those conversations, sharing some of my own common experiences and being curious about their experiences by asking tons of questions. If you are too quiet in those occasions, it would leave them a negative feeling about you. Do not be shy to get involved, act as a colleague of them instead of a Ph.D. student. Finally, an effective way to signal your interest in a school is to ask what your dinnertime hosts love about the surrounding area. For example, ask about how the area could support your hobbies. If you are married and/or have kids, ask about things that your spouse or kids would like. On the other hand, if you show no interest in the area, then the faculty will suspect that you’re not serious about their school. In sometimes, if you are a good candidate that they love, the faculty often want to gossip about what other schools that you are interviewing at. I often try to avoid these questions in a gentle way but also tell them the truth – I will mention a few names in the same range of the school that I am interviewing with.

I really appreciate my research fellow experience at NYU, Center for Data Science. I was lucky that our center holds a regular MaD seminar every Thursday, where faculty along with our research fellows treat the speaker to lunch before the talk. I did quite a lot of practice during lunchtime by participating in these conversations and by observing how the speaker behaves during the meal.

Chalk talk with search committee. At some places, I will have a very important meeting with most faculty members in the search committee for 1 hour. The main purpose of this meeting is to discuss about your future research agenda, funding plans, teaching plans (in other words, to discuss about how to build an independent research program in the near future). As most search committee members are involved, it is critical to get prepared to show them a compelling research vision, and convince them that your research can be successfully funded in the future.

For myself, I usually prepare 15-20 pages of slides. In the first 2-3 pages, I recap a bit of my research in a broad sense as some committee members might not be able to attend your talk. I use 3-5 pages to describe my future research plans, going from broad pictures to concrete projects. In most of the cases, the faculty members will ask tons of questions about your future projects, so be prepared to think about some concrete projects/ideas that you really want to pursue in the near future. I also use 2-3 pages of slides to provide a compelling funding plans, telling them a story why my future research agenda can be funded, detailing the names of the funding agencies along with the projects. To make it more concrete, I highlight many faculty members within and outside the department, on specific projects that we can potentially collaborate with. Finally, for teaching I usually
use 1-2 slides with focus on the development of new courses. Nowadays there is huge demand for machine learning and optimization courses, I use the chance to get them excited about the new courses that I can develop to strengthen their curriculum. For all the places that I onsited, most feedback I got suggest that I did pretty well in this part that most of the committee members are excited about my work and my future endeavours after the meeting.

**Meeting with graduate students.** In some occasions, I am also scheduled to meet with graduate students. This is a great chance to learn about the department from the students’ perspective as well as to have a sense of the quality of the students. In many cases students were reluctant to speak up, so I had to take the lead to avoid awkward silences. Since I just graduated very recently, I often used the time to engage the students in their research projects, career goals, and their feelings about the departments. Additionally, be prepared that there will be student representatives who will ask you some standard questions (they will report to the search committee)

- **What (new) courses would you like to teach and why?**
- **What is your mentorship style for engaging Ph.D. students?**
- **What attracts you to join our department?**
- **How do you guide students when they are stuck or cannot make progress?**

### 3.3 After the Interview

For schools that I really interested in, I spent a lot of time crafting personalized follow-up emails with each faculty member that I met with, within 1-2 days of the interview. For schools that do not interest me as much, I sent follow-up emails only to a few people such as the department chair, hiring committee chair, and my faculty host. Writing a dozen or even two dozen emails often took a whole day of my time, especially since I was so tired after each interview; but I felt like this extra effort was worthwhile. You should understand that a faculty life is very busy, and the service of the department is the last thing that one faculty wants to do. Sending follow-up emails not only shows your respect for their time, but also demonstrate your interest and gives them a positive feeling about you.

For each email I wrote, I make it very personalized for each faculty member, with inputs from the conversations that we had during the one-to-one meetings. For good conversations that I found a lot of common ground, I often sent out papers pointing to some future collaboration opportunities. For some luke-warm conversations, I use this chance to make up by providing more explanations about things that I forgot to mention during the interview. This is also a chance to get feedback for your interview. For many cases, if the department chair or the search committee chair says something like “keep in touch” or “will get back to you soon”, this often suggests that the search committee are having a warm feeling about you and you did pretty well during the interview.
4 Receiving Offers

Getting offers is always a moment of joy and excitement. Usually, the procedure is that the department chair initiates a phone call with you to gauge your interest (they want to maximize the chances of getting the offer accepted). Once you show your interest, you have a verbal offer and the department chair will start the negotiation upon the salary, the startup package, the teaching, and start date, etc. Finally, he will send the draft to the college for the approval from the dean, and send out the official letter offer to sign. Notice that a verbal offer can still be rescinded in some unexpected situations (some of my verbal offers had been suspended due to the coronavirus situation), so you’d better to get the official offer as soon as possible.

Delaying the offer. It is always good to receive an offer early. Receiving an offer in the middle of your interviews can significantly boost your confidence, making your rest of interview much less stressful. However, you often want to hold on a while for potentially better offers down the line. On the other hand, each department wants the chosen candidate to decide quickly (e.g., in 1 or 2 weeks), so that they have time to make an offer to their second choice if their first choice rejects them. If the first choice delays too long, then the second choice might already be scooped up by another school. One of the suggestions that I got is that, you should always holding on one offer while waiting for other better offers. In many cases, it is possible to ask politely for an extension of one or two weeks, and push the other school by notifying your offers. When asking for extensions, always show your respect and your interest, and provide some valid reasons that you want to extend (e.g., family concerns).

Offer negotiations. First of all, you should only negotiate in detail with schools you are really serious about. Otherwise, it would be a waste of time for others and get people annoyed. The offer usually contains three parts:

- **9-month and summer salaries.** For most of the public schools, as the information is publicly available, you usually do not have much room to negotiate the salary. But it should be noted that you salary usually goes up 2-3% every year, a small difference in the beginning could lead to large differences after a couple of years. One strategy is that if you have multiple offers, you can use the offer to let them compete and match each other.

- **Startup packages.** This often include the funding for hiring 2 students for 2 years, other discrepancies needed for your research and travel. It is a good idea to make up a concrete list of how much you need for each parts before you start talking hard numbers. If you can, try to get your startup package to be all or mostly cash. By “cash”, it means that the funding can be used to pay for anything ranging from students, equipment, travel, etc., to have more flexibility. Additionally, for my field of study, asking for more support of students could also be very beneficial for starting a new lab.

- **Teaching relief.** You could also try to ask for teaching relief for one semester at the beginning to setup your lab. Usually I find this is quite hard to negotiate, as
most places want you to teach at the beginning such that you can provide enough
evidence of a upward trajectory of your teaching evaluation for your tenure case.

• Starting dates. Normally, the starting date of the position is in the August. In
most of the cases, you can ask for delay to the spring or next year, and this part
is very easy to negotiate. In my case, I asked for delays to the spring due to the
uncertainty of the coronavirus situation. Starting in the spring has some pros and
cons. In many places, the tenure clock starts in the next fall, so that you have half a
year more flexibility to get things right. On the other hand, getting students in the
spring could be more difficult, as most graduate students have already found advisor
at that time. Nonetheless, I know many young faculty work only on themselves for
the first year.

Finally, do not be greedy. This is not about maximizing your compensation and
startup package and pissing everyone off in the process – the people on the other end are
your future colleagues, not anonymous suits. Your goal in negotiating the offer is not
to squeeze every penny you can out of them – instead, it is to reach a point where you
feel confident that the compensation and startup package will allow you to be happy and
successful in your new job.

Making decisions. Having multiple offers leave you some happy but hard decision to
make. In my case, I made quite a few phone calls with my advisor, my family and many
of my close friends to ask for their advice. As mentioned in [2] as well, there are several
important factors to consider when making the final decision:

• How enthusiastic are the faculty about your offer? Was the approval vote unani-
mous or a bitterly-fought victory (you can often get this information from internal
contacts)?

• How nice were the faculty to you during the interview overall? Are there any faculty
that you can collaborate with?

• Will there be senior people in the department that will provide strong support and
champion for you? Can you identify good mentors from the department?

• What is the quality of the graduate students? How much does it cost to support a
graduate student?

• How close is the school to the nearest real airport? As a professor, you will be
carving a lot for conferences and funding agencies in D.C., so being close to a
large airport with many direct flights makes your life much easier.

• What is the living cost and do you like the place?

It is always good to have one official offer at hand through the job hunting season.
However, if you are no longer interested in other schools, let them as soon as possible in
a respective way – they will be disappointed for sure but appreciative of your prompt
decisions, which gives the hiring committee time to make the offer to their second choice
candidate.
5 Final Thoughts: From Fear to Confidence

In the first round of my faculty job search, I still remembered being filled with fear and self-doubt whether a faculty job is the right fit for me. I am concerned about my ability to mentor students, funding raise, and eventually how to develop an independent research program on my own. This type of fear exaggerated after the first round of my failed job search.

However, the interviews gave me a chance to reflect on what a faculty life looks like and how I can be better prepared – the fear comes from many unknowns of what a faculty life look like. An effective way that I found to overcome the fear, is to stop worrying and start to behave like a faculty. I am so fortunate to conduct a postdoc at NYU Center for Data Science, where I almost act as a research assistant professor without senior mentors. By coming up with ideas on myself and getting them recognized by top conferences, and by mentoring students with the joy of their success, it reminds me of my love for academic research. In my last round of job search, I am more than convinced and confident that a faculty life is something I really desired. My confidence grows when I got quite a few offers during my last round of job search, when some faculty members told me that they are excited about my research and I am their top choice. At present (Apr. 2020), I still have so much to learn about this job and no idea if I will make it, but I am immensely grateful for the new opportunity to try.

References

