Event Title: Careers in Data Science  
Event Date: September 30th, 2021  

Panelists: Dr. Allyson Byrd (Senior Scientist, Genentech), Dr. Abhijit Dasgupta (Data Science Associate Director, AstraZeneca), and Dr. Vijay Nagarajan (Director, American Academy for Biomedical Informatics).

We had a fantastic meeting listening to our speakers tell us about their roles, experiences, and tips that they recommend we follow for the future. If you were unable to join us or want to review their advice again, please look at the summary below.

The importance of networking and mentoring

All our panelists stressed the importance of networking when entering the job market. Drs. Byrd and Dasgupta both found roles directly from networking. Conferences are a great networking opportunity; it was recommended to attend relevant conferences at least one year before you are looking to start a new position to get an idea of what the market is looking for. You could also look at data science community meet-ups, for example, [https://www.meetup.com/Data-Science-DC/](https://www.meetup.com/Data-Science-DC/) and [https://www.meetup.com/Richmond-Data-Science-Community-Meetup/](https://www.meetup.com/Richmond-Data-Science-Community-Meetup/) to meet people with similar interests. Dr. Byrd particularly discussed what role a mentor could play in networking too. She recommended that everybody try to establish a second mentor early on in their training. This should be somebody who can help with project guidance and can also provide a second pool of people to reach out to when networking. It will also be useful later when you need letters of recommendation. While agreeing that networking is essential, Dr. Nagarajan also stressed that you shouldn’t discount cold applications just because you feel you don’t have a network with that person or company, you can still get a job the traditional way.

Skill development

Dr. Dasgupta talked about developing your toolbox and working on broadening your knowledge to succeed in a data science career. Understanding the foundations of statistics and experimental design will be helpful. He gave us some insight on how shifting your mindset on what your role is can be helpful. For example, seeing yourself as a consultant, not a post-doc or an employee, but someone with a very broad toolbox with many different tools on hand help somebody answer their questions can help you to succeed in the data science field.

All of the panelists agreed that the development of ‘soft skills’ is essential for success in the field and that it takes practice. Everyone agreed that presentation skills are essential and that, particularly in industry, a critical skill is to present your work succinctly and to a broad audience. In addition to formal presentations, oral communication skills, in general, are important. Having a short elevator speech for each of your projects practiced and ready to go can be useful. Time management is another skill that employers will be looking for, particularly in an industry where the timelines are sharper.
Understanding how to get to a solution quickly is a particularly useful skill to have, and at times may mean accepting a solution that is 80% of the way there instead of spending time getting to a 100% perfect solution. Knowing and accepting this can help you succeed.

**Showcasing yourself and your skills**

We discussed how potential employers would be assessing your skills. Some employers will want to do a technical interview, which typically will involve being given a dataset, a set of questions, and a defined period before interviewing to perform your analyses. Not all employers do this, but if you are asked, it can be a great way to showcase your thought processes and priorities since you will be on a short timeframe. Our panelists also discussed using GitHub and blogging to your advantage. GitHub can be an excellent source to document your self-taught skills, and blogging is a helpful tool to showcase who you are as a person. Maintaining an updated LinkedIn and Google scholar profile is also very important. Some employers will be more focused on publications than others. Remember that having co-author papers is not a bad thing you can use this to show you are a team player.

**Starting your own business**

In addition to general advice on careers in data science, one of the panelists, Dr. Vijay Nagarajan, has established his own business in Big Data Science and offered advice on this too. He highlighted some of the opportunities within the realm of data science where you could develop a business, including contract research, contract software development, software/data services, and teaching/training. He emphasized the importance of having a plan on financial, technical, human, and legal infrastructures, as well as having an exit strategy. Perseverance and an honest evaluation of how much risk you are willing to take on are imperative. Patents, trademarks, copyrights, and purchasing domains should all be dealt with as soon as possible. He provided us with slides that we can provide to you upon request and was happy to be contacted if anybody wanted to chat further about starting their own business.

**Final takeaways**

Network, network, network! Practice your soft skills, develop a broad knowledge base, explore internships if you are early in your career and are interested in going into the industry, and use websites like GitHub, LinkedIn, and Google Scholar to your advantage. All the panelists would be happy to assist with further questions and tips. Please contact Drs. Amit Singh (amit.singh3@nih.gov), Victoria Hill (victoria.hill@nih.gov), or Arvind Shukla (arvind.shukla@nih.gov) if you would like to connect with the panelists.