Comprehensive Career Plan

Summary of Goals and Objectives

My goal is to learn about Signal Processing and Machine Learning such that I am able to make unique and meaningful contributions to the field. I would like to enter industry immediately upon graduating with my undergraduate degree and then pursue a Master’s with a thesis for the first two to three years of my working career. I would then like to continue working while I also do independent research on a few ideas I have related to speech and signal processing.

I would eventually like to start my own company, but also want to make sure I learn as much as possible in the process and therefore would ideally like to work for many years at a company with many knowledgeable and inspiring colleagues. Basically, this is all to say that I want at least a Master’s level education, want to work in industry so that I may learn from experts and build a network of inspiring individuals while working on interesting projects, and would like to independently pursue research ideas with the idea that they might become viable companies at some later point.

Current Status

I currently am a senior in Electrical Engineering focusing on signal processing and communications. I am in the last semester of my senior year and therefore will be graduating this December. I have already accepted a job offer at MITRE, a federal research facility in the Boston area where I will be working as a Signal Analysis Engineer beginning in January of 2019. The department I will be working in focuses on using signal processing and machine learning in signals intelligence and positional navigation projects for various government
agencies, like the department of defense. My role will primarily be as a researcher as the group I work under focuses on algorithm development and theoretical approaches to problems.

Education

As stated above, I am a senior in electrical engineering. This will be my first bachelor’s. After receiving my degree, I plan to enroll in the Signal Processing and Machine Learning Master’s thesis program at Northeastern University, which specializes in programs for working students. It is possible that I will choose to pursue a PhD as well, but I am not sure about this at this point.

In a less formal manner, I hope to continue to educate myself on subjects that I find interesting. For instance, I have always been interested in language learning. Although I do not believe I will be entering any sort of official courses on this material, I would like to continue studying various language over the course of my lifetime. This is just to say that not all of my future education will come by way of structured, university coursework, but rather I see myself doing a good amount of independent learning as well.

Research Experience

While pursuing my undergraduate degree, I have participated in a few research projects. The first was a FURI that I completed under the guidance of Visar Berisha, a professor in both the schools of speech and hearing science and electrical, energy and computer engineering. The project I worked on related to using signal processing to study whether the motor speech disorder dysarthria affected a bilingual speaker’s ability to speak each of their languages homogeneously.

After this experience, I went on to become a research aide in Dr. Berisha’s lab and over the past year I have participated in a number of research projects thanks to this role. All of these projects relate to a common theme- the utilization of signal processing to study speech. The work I have completed in this area has helped prime me for future research that I hope to conduct, either in my Master’s program or independently, related to how signal processing can be utilized to better understand and assist language acquisition. This is a personal interest of
mine as I love to study languages and feel that signal processing could greatly enhance the learning process.

Industrial/Work Experience

I recently completed a year and a half long internship at Appareo Systems that served as my introduction to engineering in industry. At Appareo, I held two positions- Software Development Engineering Intern and Embedded Software Engineering Intern. I feel that these two positions greatly improved my programming ability as they helped familiarize me with advanced, industry-level coding techniques for both client-facing high-level apps and lower-level, embedded systems. I feel that my courses barely touched on the coding skills that are often necessary to be a competitive electrical engineer and therefore am extremely grateful I chose to pursue a software engineering internship and have this experience under my belt. Also, I feel that working at Appareo was just a great introduction overall to what it is really like to work in industry- how actual projects are implemented, what it is like to actually create something for a client, the pacing of projects, the types of relationships that are formed with coworkers, etc.

Community Service

I have been a member of two organizations at ASU, the Society of Women Engineers (SWE) and Engineers Without Borders. Both of these organizations perform important roles in society and are organizations I would like to continue my involvement with as I move forward in my career. While at my interview at MITRE, I learned that there is a women’s society on campus that is heavily involved with SWE and participates in many regional outreach programs. I plan to participate in this group and hopefully can help make a difference in the realm of getting more young women to realize how rewarding STEM can be and helping them see their own potential in the field.

I feel that I would have benefited greatly from this as a teen or young girl as it took me a while to figure out that STEM was actually my greatest fit for a career, even though I always excelled at math and logical reasoning. I think a lot of this reticence to join a stem field related to me not thinking that it was a ‘women’s field’ or an area that made sense for women to go
into. For this reason, I would love to be part of a force that can help impressionable young women realize that stem is great field for women and that the field actually needs women just like them.

Personal Mentoring Plan

For the past two years, I have been mentored by Dr. Visar Berisha, who I initially contacted as I was interested in doing a FURI project on one of his research topics. Visar has been a great coach to me over these past two years and has provided me with much wisdom and advice both academically and career wise.

Moving forward, I know that my new job at MITRE will have me working closely with my ‘group leader’, Curtis, whom I met at my job interview and have been in contact with since regarding what I can do to prepare for my big move and new position. Hopefully a mentoring relationship will develop, as I believe that is the goal of the group leader dynamic. I also met a woman during my job interview who was highly involved in some of the female-specific social offerings that MITRE offered, and I believe I could find a good female mentor if I join the same organizations that she informed me about.

Eventually, I would like to also be at a point where I feel that I can mentor other people entering the field. I therefore hope that through these early mentoring relationships I can pick up good ideas about what is most helpful about mentoring relationships, and how to best go about being a good mentor myself. I think it is important to the engineering community as a whole that these types of considerations are made, as future generations can benefit greatly from the ‘wisdom’ being passed down from their elders. That is, I do not want mentoring to be a net sink in my life, and instead would like to give back to the mentoring community by the time I retire and hopefully positively impact some up and coming engineers.

Economic and Financial Goals

One of my major financial goals that is quickly approaching becoming a reality is home ownership. Ideally I would like to buy a home as soon as I move to the Boston area, and accordingly have already been pre-approved for a mortgage and have contacted a real estate
agent. I will be visiting the area before I graduate and hopefully will be able to make an offer then, before I move out.

Beyond this, I would like to build a nice security net of savings and learn how to invest. I believe I would find it interesting and satisfying to get into real estate investing as well as stocks. My plan is to buy this first house and then rent it out in a few years, when I perhaps move into something a little more substantial. From then I would like to invest in duplexes every few years, or some other sort of easily rent-able real estate. This is all to say that ideally I can diversify my income streams and eventually reach the point where I can retire very comfortably— that is, I would like to make my money work for me so that I am not always dependent on a 9 to 5 job (even though I most likely would like to work one anyways because I love the field so much).

Along with this ideal of having savings and money that ‘works for me’, I would like to be able to provide my family with a nice and comfortable lifestyle. I want my children to have their college paid for and possibly be able to buy them their first properties so that they too can get into real estate investing. I believe that with patience and frugality this goal is definitely achievable.

Graduate School

I plan to enroll in a Master’s program at Northeastern University in August of 2019. I will be studying electrical engineering, with the sub-focus being ‘Computer Vision and Machine Learning’. I will also be taking their thesis coursework plan, as I am very interested in doing further research in this field and do not think I will be completely satisfied just doing their coursework focused plan.

I am hoping that prior to enrolling I can meet with different professors in the department and find a good match for my research goals. By doing this, I could possibly get a head start on my research, and accomplish a lot of the preliminary goal setting in summer of 2019. Many of the people I will be working with at MITRE completed their Master’s at Northeastern as well, and some have reached out to let me know that they can introduce me to professors in the
department if I need any help finding an adviser. This sounds like a great offer and I will definitely be reaching out to these people once I arrive at MITRE.

It is possible that at the conclusion of my Master’s I may choose to continue forward with a PhD. I believe that it is too soon to tell, but depending on how feasible it is to complete a PhD (given whatever my family and work commitments are at that point) it may be a great option and could keep a lot of doors open for me. I am hoping that playing it by ear is the right choice in moving forward, and trust that I will know whether that level of in-depth research is right for me as I move further into my career and Master’s coursework.

Long Term Professional Goals

Long-term, I would like to eventually start my own company as I feel this is a good fit for my personality and skills. Before then, I will focus on working at one company for a long time (if possible) and hopefully moving into a leadership position after not too many years. I feel I have a good ability to see the big picture and I also feel that I generally get along well with a wide variety of people. With these skills in mind, I think a project planning position might suit me well.

In a more general sense, I really just want to feel satisfied when I look back at my career and contributions to the world and EE community. I hope that I can really delve into research in the field and just enable myself to make meaningful contributions to whatever project I am working on. Leadership position or not, own company or not, my real goal is to output something meaningful.

Life Long Learning

I will always be a lifelong learner. I think this is one of my defining traits, and also something that has been a point of contention in some of my relationships- I am always pushing myself to do something ‘more’ and I never feel my work is done. I think this kind of
striving is what gets me out of bed in the morning and keeps me feeling happy to be alive. There is just so much to learn and master and I know I will never get to everything on my list!

I love this way of living though, and can not see myself ever changing. Moving forward, I hope that I continue to find material and concepts that inspire me and that I also eventually find a partner who loves to learn and discover as much as I do. I believe that a partner who attacks the world in the same way I do would be in amazing addition to my life, and we could possibly help each other accomplish more by joining our ‘learning forces’ together.

Family Planning

I would like to have children some day, and given my age this day is going to have to be in the not too distant future. As of right now, my tentative plan is to have two to three children over the next 7 to 8 years.

Travel Plans

I love to travel. I lived internationally for a few years and also traveled extensively over a two year time period. Since starting school, I have not traveled out of the country much at all, and have been pretty much locked to the Phoenix area, save some trips to see family and friends in other states. As soon as my income allows it, I plan to prioritize traveling and save a good amount each year for this purpose.

Ideally, I would like to buy two ‘vacation homes’ internationally- one in Santiago, Chile and one in the greater Barcelona area. Both of these places are near to my heart from my prior traveling experiences, and I actually think it would be feasible for me to buy these condos in the not too distant future, if I budget wisely. I could rent these places out when I am not occupying them, which would help offset the mortgage costs. Also, there are very affordable options in both of the locations I’ve listed, with Chile especially becoming more affordable given how much their peso has depreciated in recent years versus the dollar. Ideally, these two homes will stay in my family forever, and I could eventually retire and live half the year in each home (winters in Chile- their summer- and summers in Spain).
Investment Plans

I covered this in my economic plans, but basically I do have both an interest and a motivation to invest in both real estate and stocks. I think first and foremost I need to educate myself on these matters, and plan to do so over the next two years.

Contingency Plans

I think a good contingency plan for me right now is my education. If for some reason things do not pan out at MITRE or for me working in industry in general, then it is good that I will have my graduate schooling to fall back on. I could pivot to obtaining a PhD if I do not feel industry is a good fit for me, and could instead try for an academia route. Otherwise, the idea of starting my own company could also be a fallback plan, although this would obviously be much more risky and less assured than the former.

Philosophy of Life

My overall philosophy of life seems to be to just keep learning. I feel I was put here for a purpose, and that life is truly a gift. I think there is a reason that I found electrical engineering, and truly believe it is my calling. I hope that I can continue to let my inner voice lead me, and in doing so help make wonderful and important contributions to the EE community and world beyond. I also hope to just enjoy life, and be kind to others and to generally let my heart lead me.

Other Issues

I do not believe I have any other issues at this time.

References

I do not have any references for this write up.