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CS481 Seminar Conference Write-Up

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The Ohio Celebration of Women in Technology 2019

Over the weekend of February 22nd, I was given the amazing opportunity to attend the Ohio Celebration of Women in Technology Conference in Huron, Ohio. Through a series of informational talks, panels, and social events, I was able to meet some very extraordinary people as well as gain some insight on what women have experienced in their technological careers and how they continue to be successful in their fields. For my first talk I decided to go listen to a woman named Annie Baymiller, who is a global project manager for Owens Corning, a building materials company. I chose this talk because I thought it would be respectful to attend the talk hosted by the company that sponsored me so that I could attend the conference, and I'm very happy that I did. Baymiller's talk consisted of her top 10 tips to being successful and comfortable in your workplace based on her experiences. Here's her list:

1) **Do great work.** "It is so important not to lose sight of your goal". Wherever you may end up, you should always put your best foot forward and establish yourself as someone who is known to always deliver results.
2) **Choose your company based on its culture.** "Make sure that you feel good about where you work and have a sense of belonging".
3) **Build your foundation.** Make sure that you find the time to be curious about other aspects and try to broaden your skills both on your own and in the workplace.

4) **Experience > Roles.** It's not just about what positions you've held; it's about what you've learned from them and how you can apply them to the next stage of your career.
5) **Welcome feedback. "**Be a sponge". You're going to learn a lot about yourself so be open to criticism from others.
6) **Own your "secret sauce".** You need to further develop your self-awareness and find out what makes you stand out and use it to your advantage.
7) **Say "yes"**, as long as it feels good for you. It's better to say "yes" than never know, so if it will benefit you, say "yes" as often as you can.
8) **Grow your relationships.** When you truly like the people that you work with, it makes going to work that much more fun.
9) **Focus on the day.** Focus on the present moment. You can only control yourself and what *you* do next.
10) **Be your best you.** Try your best to remain authentic. "Share your strengths. Ask good questions. Continue to learn. Strive for constant improvement".

The question that I had for Annie Baymiller was what kind of obstacles did she personally have to overcome in her career. She responded with: "I had trouble finding the courage to speak up and lead with the facts; not my emotions. I realized that the more candid and constructive you can be, the better the chance of your team being successful.".

For my second talk I attended an industry panel titled "Building a Career in Technology". This talk was an open discussion between the panelists and the audience, and we were allowed to ask them questions and hear their responses. On the panel were three women:

1) **Annie Baymiller**

- Double majored in Computer Science and Economic Management.
- Started her career in a rotational program, then went to work on an SAP project in Europe for many years.
- Started her own consulting practice.
- Joined back at Owens Corning in 2013, and is now a project manager for the company.

2) **Lisa Pearson**

- Graduated from Bowling Green.
- Worked for many years in software development.
- Is now a DevOps architect.

3) **Cyndee Burke**

- Has been working in Computer Science since 1981.
- Worked in Cleveland at Progressive for 13.5 years, Key Bank for 10.5 years, and Eaton for 13 years.
- She is still currently working at Eaton in their administrative center.

A summary of the questions and their responses were:

Question 1: ***Is it better to be a generalist or a specialist?***

- **Baymiller:** Having a broad foundation early on is good. Things are changing faster and faster so you must be inquisitive of it all.
- **Pearson:** You're in control of your needs and learning so you can't be scared to ask and demand it. Looking at job market demands will help tremendously.

- **Burke:** Play your strengths. You have to understand where you are to get to where you're going. Knowing the business will also benefit you.

Question 2: ***What role do you see communication playing in technological careers?***

- **Burke:** Communication is #1! Relative to communication, it needs to be thoughtful. Being thoughtful is the key to getting your point across, to understanding, and to be understood. You have to listen **and** you have to speak up to be understood.

Question 3: ***How do you break into the "tribal knowledge" of a new company?***

- **Pearson:** You have to have the courage to say, "I don't know". You're going to need to ask for information so that you can do your job and do it well. Own that and ask for help with confidence.
- **Baymiller:** If you realize that a company has little to no documentation on the way that they do things, you could be the person that helps them change that and in turn, help the next person that comes along as well as yourself.

Question 4: ***When it comes to searching for a better job, where do you draw the line between disloyalty and just fighting for a higher salary?***

- **Burke:** Good companies have organized compensations so that they can compare salaries to other companies. You can only play this game **once**. So be careful. Don't ever breach your companies confidentiality and use private information to get higher up in the company. Somebody will always pay more, but you have to consider the company, their culture, their values, and etc..
- **Pearson:** "I was the person that took the high-paying jobs and I ended up somewhere that I hated". Money is important, but so is your overall happiness.

- **Baymiller:** A company that values diversity are going to value the equality of its structure. The pay gaps are closing in most of these companies, so you need to find them. These are the companies worth working for.

Question 5: ***How do you strengthen your communication skills?***

- **Burke:** It's important to have someone that you know and trust to be available to critique you. Communication is all about presentation, so you need to understand the level of detail of what you need to say and how you need to say it.
- **Pearson:** You're going to run into different types of people who are going to want different types of information. You should try creating summaries of what you want to say to these groups, and practice presenting these details to the different levels/types of people.
- **Baymiller:** You need to think about who your audience is. "I think that people have lost the art of written word. You should always be asking yourself, 'Does it read well?', 'Is the text good?', or 'How'd I do?'.".

Question 6: ***When it comes to building your own brand, how do you translate that into IT?***

- **Baymiller:** The most important thing to consider when building your brand is "what people say about you when you're not in the room". You have to find ways to exemplify your strengths. "Who do you want to be? Or hope to be perceived as? Ask for feedback from those around you.".
- **Pearson:** Use your company's "internal social media", and use it to share your work. Develop relationships so that you have a "Let me help you and you help me" structure. Let them know what you know, so that they will return the favor.

Question 7: ***How do you present in a professional way?***

- **Pearson:** Think about *why* you're presenting. Drive that towards what you think they want and need to know. Know your audience and give them exactly what they're asking/looking for.

Question 8: ***Who really influenced you in your career choices and development?***

- **Pearson:** "My father. He told me to take a Computer Science class in high school so that we would always have something to talk about".
- **Baymiller:** "My first boss at Owens Corning. He always supported my development and he was willing to invest and bet on me".

Question 9: ***Do you have any final advice/insight that you think will be useful?***

- **Burke:** "Do what you love, love what you do. You have to get up and do it everyday. Make sure you like your company and who you work with".
- **Pearson:** "Listen to your brave side and do it. Say 'yes' when you could've said 'no'".
- **Baymiller:** "Be confident. Be practiced. Own your research and your experiences. Go get the job that you want!".

For my final talk I attended a short session titled "Predicting Network Traffic Using TCP Anomalies", a research project being conducted by Alina Lazar from Youngstown State University. Large scientific facilities use Science DMZ, which includes several dedicated data transfer nodes, and high performance data movement tools, to attain high network transfers for high performance scientific applications. Network traffic prediction plays a vital role in maintaining healthy operations within all varieties of complex and diverse computer networks.

Online traffic monitoring information, collected over time, can be used to predict future traffic volume and unexpected events in realtime. Predicting future traffic has been addressed in the past mostly via time series forecasting by building regression models capable of drawing accurate correlation between future traffic volume and previously observed traffic volumes. In contrast to time series methods, other machine learning methods have been proposed to identify bottlenecks and explain the status of network traffic using features from passive network measurements.

Tstat is one available tool for monitoring the network traffic. It computes over one hundred different performance statistics at both the IP and TCP layers. At the large scientific facility 90K of TCP flows are collected per node daily and a total of 10GB of compressed data logs yearly. Recently, Hidden Markov Model and Recurrent Neural Networks have been proposed to predict network traffic volume from some flow statistics, such as flow counts per time interval. These flow statistics are easier to compute compared to network throughput.

It is well-known that TCP anomalies such as packet loss contributes to the variance of network throughout. Therefore, it is essential to be able to correctly identify all these the anomalies. Previous research reported statistical correlation between multiple variables collected in the Tstat logs and the network traffic throughput.