VEX Robotics and a Career at Tesla

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480S - Grizzbots

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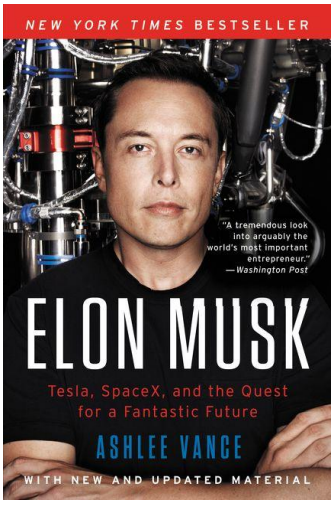
Summery

The company I've chosen is Tesla, because when it comes to designing and engineering, Tesla is one of the biggest innovators of the technological field. Tesla is a technology company founded by Elon Musk that is most commonly known for their innovative electric cars, but they have also made numerous contributions to other tech based fields, like energy renewal or the housing market. Despite these achievements, they couldn't have achieved so much without a lot of effort and an excellent design process. So, because of this, they are a really good company to learn more about when it comes to the engineering process and how to apply it in your career.



Elon Musk on New York Times

I interviewed a former team member who is now a Production Associate (PA) at Tesla about their design process and how their team compared to ours. Their process followed very simple yet effective steps, which were "look into the issue, brainstorm a solution, try out one of the solutions, and then either try a different solution or improve on the solution you found if you can." These steps are actually very similar to our team's design process, with a couple key differences. First, before looking into an issue, we define what the issue is before researching it. Then, we research possible solutions before our team chooses the best solution to the issue, similar to the PA's team. This is where the second key difference comes in, as our team improves upon the solution as much as we can before deciding whether or not to try a different solution.

While this method is a bit more time consuming compared to the PA's team, it also allows us to realize the potential of each solution we come up with and see what problems we could solve by switching solutions. Another important thing our team considers when building is to be adaptable with your ideas and solutions as any amount of complications or obstacles could come in you or your team's way. But, the most important thing when it comes to the engineering process is communicating with your team, as you can't do everything by yourself. In fact, the PA added, "A big thing here at Tesla is running your ideas by others when doing design because other views or "new eyes" on a problem can make a big difference" It's especially easy to get side tracked or narrow minded when it comes to designing, which is why we put extra emphasis on communicating with your team about what it is you're doing and vice versa.

Tesla's Fremont, CA Factory team

VEX robotics is an excellent way to learn about the processes big tech companies, like Tesla, might go through and how to most efficiently solve any problem. It teaches very important skills early on so that you have the best chance possible to succeed throughout your career. In fact, the PA even discussed how robotics had helped him in his career at Tesla, "I learned a lot of

mechanical skills and it honed both my problem solving and critical thinking.” It also inspires out of the box thinking and creativity as not every problem is just gonna have one solution. Not only does VEX robotics teach practical skills that help you in your career, it also teaches skills that anyone can use in day to day life, like communication, teamwork, and planning. Without VEX robotics, I definitely would have had a much more difficult time getting into the career field I’ve always wanted. But now, I have the tools and skills necessary to not only succeed, but thrive in whatever career I may choose to do in the future, maybe even at Tesla.

Credits:

Interview questions:

What is your profession and what does it do for Tesla?

"I'm a Production Associate (PA) and I maintain the production line by fixing robot errors and manually moving parts on occasion. Without PAs the lines couldn't run because they would always be broken and then nothing would get made."

What is your design process and its steps? How do you apply these steps in your work?

"Look into the issue, brainstorm a solution, try out one of the solutions, and then either try a different solution or improve on the solution you found if you can. In my designs I follow pretty much the same process. A big thing here at Tesla is running your ideas by others when doing design because other views or "new eyes" on a problem can make a big difference."

How has your design process changed since starting at Tesla?

"Not a lot. I haven't gotten to design much if anything."

How has robotics helped you in creating your design process?

"Robotics was the basis for my design process and helped shape what I use here that works so well."

How did participating in robotics prepare you for a career in engineering?

"I learned a lot of mechanical skills and it honed both my problem solving and critical thinking."

What's the work environment and atmosphere like?

"Everyone is very positive and supportive to help you reach your goals here. It's laid back but serious when it needs to be. It's very clean for a factory."

How do your coworkers compare to the robotics club members, what's similar? What's different?

"The feeling of a team is still really strong here like in robotics. It’s surprisingly not as mature as you’d think. Most people like video games and anime.”

How do you and your team work together to solve problems?

"Everyone is very attentive to any problems that happen on the line. The PAs work with maintenance to fix things that are beyond the PAs knowledge or clearance which means people get to learn as the problem gets solved.”