If you don’t know darts, you must know what a nine-dart finish is. We didn’t know darts, but a twitter thread informed us of how electric the game of darts could be and, naturally, we impulse-bought a dart board that day so we could all experience our own nine-dart finish adrenaline. The problem with the purchase was that my roommates and I are incredibly competitive with each other.

Fast forward to delivery day. We played from late afternoon well into the evening and my win percentage was hovering just below 50% (48.1% to be more precise). We were all pretty horrible at the game and I was getting frustrated at my tendency to tread water around this 50% win percentage figure. So I thought about it; we all knew the best theoretical strategy but none of us were accurate enough to hit the marks we needed to in order to achieve a nine-dart finish (scoring exactly 501 with 9 darts), or anything close to it. So I dreamt up a way to use my analytical skills to “solve” darts for the amateur.

I won’t explain the code in too much detail but to describe the project at a high level, I simulated a game of darts an obscene amount of times in order to find what “center of aim” I should use given my “cone of variation.”

**From Spite Comes Motivation**

My best friends and roommates tend to get a little competitive. Things get thrown, voices are raised, tensions are high, even for the little things. We all naturally love winning, and winning in competitions between us four especially. It’s safe to that there isn’t a dull day when one of brings a new game to the group.

So in our typical fashion, one of my roommates sends a picture of a receipt

For awhile I had been looking for a project that would allow me to learn more about analytics, develop my skills, and showcase my talent. I had scoured Kaggle, data.gov, MachineHack, and more trying to find something that I took an interest in. These were interesting but I never got the motivation to show these projects on my website because I felt as though there was never really impact I could share. This was soon solved by something that lights up my brain like nothing else; competition.

My roommates and I will send each other tweets from anything and everything, just collections of little pieces of media that will light up each others day with comedy, interesting material, or, in this case, inspiration. One day a video of a professional dart player nailing a perfect game, what you call a nine dart finish, graced our timelines. It was incredible, and we wanted a part of the action. So naturally, we ordered a board the next day.

What we didn’t comprehend fully was how hard it actually is to be consistent in the game of darts. You can be good, but the moments where you express pure joy and satisfaction at a nine dart finish, well they don’t really exist for the amateur. So I wanted to figure out a way to experience the most satisfaction and dominate my roommates in our new found interest. This was the beginning of a project that I thoroughly enjoyed, and boy do I have some tangible results to share.

**The Amateur Problem**

As with anything, becoming good, and repeatably good at something requires a large time investment. Anyone who likes to develop any skill knows this and especially someone who enters the world of analytics, computing, and data knows this as well. And so, when we got the dart board in and hung it up, it became apparent that nobody was a natural pro. No nine darts would be thrown in that house.