**This Website (2019)**

There are 7 Easter eggs in this website.

My personal website had two main purposes. First, I wanted to track what I have done. I love building, as shown throughout the website, and I wanted tangible evidence of my creations in one place. Second, I wanted to create a living system that would provide feedback on my life. Every month I track new metrics to see if I’m headed towards the life I want. Some of these include whether I completed my morning routine or what percent of my to-do list was completed.

I also tried to capture my personality in the site, hopefully giving you a little window into my mind. Quick summary: I love building, I’m passionate, and I improve every day. If you have any questions, suggestions, or simply want to say what’s up, please let me know.

Skills: JavaScript, Pug/Sass, UI Design

**Analysis of Driving Data** (current)

The education I have received through school has not taught me how to analyze data. It has taught me how one would analyze data or the math behind an algorithm, but there are very few hands-on applications. To get more experience working with real data in an academic setting, I decided to do an independent study with a statistics professor at Penn.

The semester involved analyzing a dataset in which we tried to forecast whether a prospective driver would pass an on-road-exam and get a drivers permit. This analysis was especially cool because it involved a binary outcome; all prior analyses I had done involved categorical or numeric data. With binary data, you can use some cool statistical techniques, such as logistic regression and confusion matrices, that are unavailable with numeric or categorical data. However, in the end, a shallow neural net performed with the highest accuracy.

Skills: R/Python, Binary Forecasting, Machine Learning

**Technical + Business Development Consultant** (Schork Group, 2018)

The Schork Group is a commodity (oil, natural gas) consulting group. By combining fundamental and technical analysis with ML, they are uniquely positioned to advise commodity traders. One of their main services is a daily newsletter that provides traders a brief snapshot of the commodity markets as well as forecasts for the markets.

My role with the Schork Group was two-fold. First, I was tasked with automating the daily newsletter graphics and text, where possible. Second, I helped with business development which involved identifying areas of expansion and designing a new website.

I am continuing my work with the Schork Group, however my role has shifted to developing a trading algorithm. Fun fact: commodity markets are the most volatile **tradable security, other than\_\_\_\_**. To leverage this volatility, I am developing algorithms across several commodities that uses market data to forecast price spikes.

Skills: Python, Automation, Business Development

**Statistical Analysis for Reef Check** (2018)

Coral reefs are the most biodiverse ecosystems on the planet and are home to around 25% of all ocean life. Despite their proven importance, little has been done to protect them. Seeing potential for scientific discovery, I partnered with Reef Check, a data collection non-profit, to assess whether corals recover after a bleaching event.

Long story short, the percent of bleaching decreases by 6.5% when Reef Check performs the next dive. Furthermore, 44% of reefs show complete recovery by the next dive. This is good news! The reefs often naturally recover. Because I am interested in coral reefs specifically, I decided to incorporate a similar question into my senior thesis.

Skills: R, Data Cleaning, Regression

**CTO + Co-Founder** (Fitalyst, 2017 – 2018)

I co-founded a health and wellness startup called Fitalyst, the fitness catalyst. Long story short, we take a holistic approach to wellness by targeting the three key areas: exercise, diet, and mental health. As of 2018, there are no fitness apps that focus all three of these areas.

To help our users reach their goals, we developed a chatbot that provides need-to-know information about wellness and also helps to motivate the users. The second area is what really excited me about Fitalyst. The chatbot would ask targeted questions and thereby develop a motivational profile for each user. If you’re the type of person that needs a drill sergeant, TAG will use strong language. On the flip side, if you need more support, TAG will use kinder language.

As alluded to earlier, my role was mainly to develop the chatbots. To prototype, we used a tool called chatfuel, which is a point-and-click service that allows you to rapidly build Facebook Messenger chatbots. From these prototypes, I designed and built an iOS application. Some other roles included developing a business plan, conducting market research, and running pilots to test the product.

Skills: Swift, Business Development, Marketing, UI Design,

**Residential + Teaching Assistant** (Wharton Moneyball Academy, 2017)

Wharton Moneyball Academy is a 4-week summer camp geared towards high school students interested in baseball analytics. The camp introduces campers to R and covers basic statistical techniques.

My role at Moneyball was two-fold. First, I served as a teaching assistant, which involved helping campers complete their projects. Second, I worked as a residential assistant, which means I helped organize trips, activities, and overall attended to campers’ needs.

**Garces Catering**

Garces Catering was a catering service based in Philadelphia’s Kimmel Center. Their cuisine was a American-**peruvian combination**. Typical events ranged between 50-200 guests; however, I also worked a 1000 person wedding (which was insane).

My official title was butler. My job was to help set up and break down events. I also was tasking with waiting on guests and attending to their needs. While I don’t plan on going back to the catering industry, I had a great time being around delicious food. I still haven’t figured out if I look food or the ocean more, but when I do, I’ll change this post.

Skills: Customer Service

**NBA Web Scraping + Quantile Boosting Algorithm** (2017)

I’m a die-hard NBA fan. When, I discovered that I could make money by following a sport I loved, I couldn’t resist. However, after placing some bets on Draft Kings, I learned that there were lots of other people who were very good at winning these contests. To get the upper-hand, I decided to develop an algorithm that would predict player performance.

The algorithm had two main parts. First, I web scraped and cleaned box-score data. Second, I developed a quantile boosting algorithm that forecasted Draft Kings points, a linear combination of basketball’s main statistics. The algorithm saw some success, but I was unable to consistently produce winning lineups; because there were so many contestants in each contest, the algorithm needed to produce a near optimal lineup.

Skills: Python/R, Web-scraping, Machine Learning

**iOS Applications** (2014 – 2018)

Apps are the best get rich quick strategy out there. Or so I was told. With millions in sight, I taught myself Obejctive-C and developed the greatest iPhone game since Flappy Bird. It was called Fit the Ball and involved pressing “bigger” or “smaller” buttons that resized a ball so it would fit between incoming barriers. It didn’t make it to the app store.

However, I enjoy developing apps and learning the framework on which they operate. To continue my learning, I conducted an independent study in app development where my final project involved developing a scheduling app for my high school. In college, I took a half-credit course in iOS development which helped fill in the gaps left by a self-taught education.

Skills: Swfit, Objective-C, UI Design

**High Grade + High Yield Investment Intern** (Logan Circle Partners, 2016)

Logan Circle Partners is a \_\_\_\_\_.

My role at Logan Circle Partners was to do general technical analysis on commodities, specifically oil. Using what little R skills I had at the time, I found optimal buy and sell points after bond ratings change. I also profiled several major oil producers, through reading a lot of **10Ks**, and presented my findings to my mentor.

Skills: R, Company Analysis

**Shark + Ray Research Intern** (Cape Eleuthera Institute, 2015)

Sharks are awesome. Scary, but awesome. When I got the opportunity to catch and tag these amazing creatures, I jumped on the opportunity.

The Cape Eleuthera Institute is a marine biology research station based in the Bahamas. Their shark/ray team focuses on shark behavior and assessing the health of the local shark populations. Recently, they were featured on Discovery’s Shark Week where they helped Gronk tag a tiger shark.

My role was to help the researchers in any capacity necessary. This often involved setting up and breaking down gear, recording data, and of course handling and tagging sharks. The coolest experience was, by far, jumping in the water next to these sharks and filming the release, for “scientific purposes*.”*

Skills: Underwater Filming, Data Management