

## How I spent my time (2019)

Every year, when I think about what kinds of experiences I will create for myself in the coming year, I think back to the year prior where I had this similar sense of aspiration, which in turn encourages reflection for whether I truly lived up to these aspirations.

### So how did I do?

From the data<sup>1</sup> collected, I have three main takeaways:

1. The category I spent the most time on was “software development,” with a total of 468 hours and 47 minutes, which comprises 21 percent of my time on the computer.
2. The category I spend the most time on in a close second was “design and composition,” with 447 hours and 26 minutes, accounting for 20 percent of my time on the computer. However, I also spent 50 hours on social media and 90 hours on email.
3. My least productive months were in January, June, and July. Otherwise, my productivity levels stayed uniform across all other months in the year.

I will discuss these three main points in greater detail.

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<sup>1</sup><https://www.rescuetime.com/year-in-review/2019/B63t1I9Mt72OjXhnzpSU2s0gYNxm7TYMDfTG1kpN>

## Software Development

It's interesting that I spent 468 hours on software development in the past year.

Under Malcom Gladwell's 10,000-hour rule<sup>2</sup>, I'm not even close to becoming considered an expert of computers (at this rate I would need more than 20 years of what I have been doing now). For comparison, I started piano when I was 6 years old, and assuming I did practice 1 hour a day religiously up until freshman year of high school (14 years old), the amount of time I spent practicing the piano is 2,920 hours. I'm still a better pianist than I am coder.<sup>3</sup>

Considering that most of what I have learned in college has been a mix of computer science, math, and statistics, it's important to acknowledge that what I will end up doing with my life will relate to me practicing and getting better in those particular fields. While I am adverse to say that your major directly translates into what you are going to do for the rest of your life<sup>4</sup>, I do think what you commit to studying in college does have a significant bearing to what you are going to do for the rest of your life, because it helps narrow your focus to the type of work that best suits your values, personality, and interests. And while you are focusing on learning in these areas of work that align with who you are, you are spending time learning, and by spending time learning, you

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<sup>2</sup>Gladwell writes that, "The 10,000-hours rule says that if you look at any kind of cognitively complex field, from playing chess to being a neurosurgeon, we see this incredibly consistent pattern that you cannot be good at that unless you practice for 10,000 hours, which is roughly ten years, if you think about four hours a day."

<sup>3</sup>Yes, I did "code" a bit in high school but I wouldn't consider that real practice since I didn't really know what was really going on beneath the code abstraction until after taking CS161, Harvard's Operating Systems course the spring of sophomore year. I've only had 468 hours of "real" practice in coding under this definition I've set.

<sup>4</sup>In fact, I think going to college with the sole aim of applying to a specific job role is an extremely narrow-minded idea, inevitably devaluing the worth of college for an individual. Jobs are changing all the time, and so they are here today, gone tomorrow. However, I do appreciate the subtlety of the debates surrounding the economics of college, like how a foreign student might use college to secure a job role in order to gain H-1B visas to stay in the United States. In many cases, that mentality of college as means for job employment is justified. But in cases where you have first-gen college students without any work experience spending their parents' minimum-wage paychecks to study "business" at a private institution, it becomes apparent that if one's goal is to get a job, college is not the place to do so. This case is different from the first-gen student who has already worked in minimum-wage jobs and understands the broader knowledge and skills he/she needs to develop in college. Again, much nuance that I have yet to examine in another essay.

are practicing and developing skills in that particular area of work, contributing a nontrivial amount of hours of your time in college to the 10,000 hours that define mastery of a craft.

## Design and Composition

While I spend the most time on software engineering, I spend almost an equal amount of time in “design and composition,” or in simpler terms, writing. For me, writing is so foundational to formulating my thought process, especially when it comes to developing heuristics (logic and intuition) and originality.

Yet, sometimes writing too much can decrease the quality of one’s thoughts. This is my particular problem with social media and email. I spent 90 hours and 16 minutes on communication and scheduling (email) and 50 hours on social media (facebook messenger, linkedin, wechat). Together, they form 140 hours of the total time I spent repeating simple phrases like, “Hope you are well”, “I was wondering if...” “Would it be possible to...” “Looking forward to back from you” and some linear combination of “Great!”, “Awesome!”, “Thanks!”, “Nice!”, “Sounds good!”, “Thanks again!”<sup>5</sup> These niceties work best if said aloud to a person, not if they were typed quietly to a computer 50 times every single day.

Therefore, a more fair metric of design and composition would be calculating effectiveness and originality.

I define effectiveness to be the ratio of productive writing hours (design and composition) to total writing hours (communication and scheduling, social media, and design and composition), therefore as a rough measure for how much of my writing retains its original intent and purpose.

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<sup>5</sup>This is not to also mention the mind-numbing obligatory facebook messenger vernaculars like “haha”, “hehe”, “wat,” and the emojis, all-caps, and extra-exclamation points that one includes to feign emotion.

Much of the time spent on communication, scheduling, and social media is time spent deliberating over how to make my ideas and words sound more similar to the tone of a typical email and social media post. Naturally, a lot of directness and original intent gets lost in this process, and the lack of confrontation or directness often results in longer email threads, more messages, and as a result more time spent on non-productive writing, all of which being characteristics of non-effective writing.

$$\begin{aligned}\text{Effectiveness} &= \frac{\text{Design and Composition}}{\text{Communication and Scheduling} + \text{Social Media} + \text{Design and Composition}} \\ &= \frac{447}{(90 + 50) + 447} \\ &= 0.76\end{aligned}$$

My writing is 76 percent effective, which I think is pretty fair. It's a passing grade but I can do better.

The second important metric to evaluate after effectiveness is originality. Originality is defined as the ability to come up with ideas on my own and to articulate and formulate these ideas in writing, teaching, and correspondence.

The metric I create for this is the ratio of the difference between productive writing hours (design and composition) and socializing writing hours (communication and scheduling and social media). Then, the maximum value we can have is 1 if socializing writing hours is 0 and we start obtaining negative values once socializing writing hours are greater than productive writing hours. This motivation behind this metric is that for every minute I spend on socialization, that's a minute that contributes to my overall design and composition process, and if originality is defined as the

ability to come up with ideas on my own, then I have to subtract those minutes of socialization.

$$\begin{aligned}
 \text{Originality} &= \frac{\text{Design and Composition} - (\text{Communication and Scheduling} + \text{Social Media})}{\text{Design and Composition}} \\
 &= \frac{447 - (90 + 50)}{447} \\
 &= \frac{307}{447} \\
 &= 68.7
 \end{aligned}$$

My writing is 68.7 percent original.

You might notice that we have can express originality and effectiveness using the following equation:

$$\text{Originality} = 1 - \frac{1 - \text{Effectiveness}}{\text{Effectiveness}} = \frac{2 \text{ Effectiveness} - 1}{\text{Effectiveness}}$$

I think this makes some sense, as the most effective people are often times the most original. Many innovators of the 21st century were effective not because they were smooth beaurocratic operators who received an MBA, but were effective because they had truly original ideas. Moreover, the more effective one becomes, the more time one has to pursue and develop originality. Ideally, my time spent should exhibit these qualities of originality and effectiveness.

## Monthly Productivity Differences

As stated prior, my least productive months were in January, June, and July. This is unsurprising because it happens to fall in the months of vacation. However, in actuality, I was interning at a startup in January and at a big bank during the summer. A natural question then arises:

How does working in a company change how I spend my time?

In general, as an intern and as a freshly graduated college student, the jobs available on the market are still typically pretty entry-level, which makes sense because again, college is never an equivalent for the actual job experience itself. Of the entry-level jobs in modern society, software engineers and financial analysts have typically been the highest-paid entry-level jobs.<sup>6</sup>

Many people in this world want to just make money. But while money is important for satisfying those basic Maslow hierarchy of needs<sup>7</sup>, ultimately, time is the most precious resource in the world, and how we end up spending our time is far more important than the money we make.

Looking at the way I spent my time while working in a company, the after-hours of my life outside of work seem pretty uninspiring. Naturally, I spent less time on my computer because I was working all day on a company computer, where I think my time was spent 50 percent on software development and 50 percent on communication and scheduling<sup>8</sup>. However, the way I spend my time on my computer after work changed. The category that saw the greatest percentage increase was “Entertainment,” supporting the narrative that I was watching more YouTube videos when I got home from work to decompress.

The category that took the greatest hit was “Design and Composition.”

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<sup>6</sup>These are very broad characterizations, as here, software engineers include the whole gamut of roles related to software engineering (product managers, data scientists, marketing specialists, patent attorneys, etc.) and likewise, financial analysts include the same gamut of roles related to finance (traders, quant researchers, bankers, consultants, and corporate lawyers).

<sup>7</sup>I am referring explicitly to food, water, and shelter (the first level of needs, physiological needs) and safety (the second level of needs). Afterwards, I really don't think money can buy you anything more than that. The argument for esteem and self-actualization being achieved with money are not unconvincing, but I think it's important to remember that the esteem and self-actualization comes more from how an individual made the money and how the individual spends that money once he/she's made that much. A rich person will always be villified if he/she made the money unethically or chooses to do illicit things with that money (this is assuming we live in a liberal democracy like the United States). The process of how you made money and how you spend money ultimately goes back to the original question of how you spend your time. Finally, I have yet to here an argument for money buying you an actual sense of love and belonging.

<sup>8</sup>I probably spent more time on communication and scheduling because while at the startup, I had Slack notifications running the background and I would receive a notification maybe every 15 minutes, and while at the bank, I had to check Microsoft Outlook every 5 minutes. It's worth mentioning that context switch between communication and software engineering also imposes a deadweight loss to an individual's time.

## What does this all mean?

2019 was a solid year for me in hindsight. I took a detour away from my college studies in math and statistics to focus more on learning computer science, specifically systems programming, and was able to apply a combination of past math knowledge and newly developed systems knowledge while working in a startup and a bank, thereby gaining some practical perspective, all the while adding more hours of deliberated practice to reach that 10,000-hour “true master of the craft” benchmark. Simultaneously, I was building momentum in design and composition during the school year, but I lost sight of it while I was working in a company during the winter and summer months, and instead substituted those hours of design and composition for entertainment.

The last fact is a great one to understand, because it illustrates that for me personally, the difference between college and a full-time job boils down to how I spend my time in design and composition. In a perfect world where I have complete freedom over how I spend my time (this perfect world being college), I would allocate around an even time to software development and an even time to design and composition, as shown in the data for how I spent my time while in college as of 2019. However, in a more realistic world where I’m working full-time, software development time stays approximately the same, but design and composition time gets substituted with emails and entertainment.

These observations lead me to conclude several things. Fundamentally, while I still complain about debugging and dependency errors that come with software development every now and then, I still have a timeless passion for software development because otherwise I wouldn’t have spent so many hours on software development in college, a time where I have all the freedom in the world

to study whatever it is that I want. Moreover, seeing that one of my priorities in life is to dedicate 10,000 hours to become a master of a particular craft, the path to achieving those 10,000 hours looks quite promising given the sample of post-college opportunities<sup>9</sup>. Therefore, I do not have to worry about taking so many CS courses during my last run of college, because the opportunities will naturally arise for me to get those hours of practiced software development after college.

The most difficult transition between college and post-college full-time job therefore lies in maintaining those hours of design and composition, how to continue pushing my effectiveness and originality as an individual. I had thought that getting an English secondary while at college would help me address this issue, but I realize while the ideals of effectiveness and originality may be seeded during one's younger years in college, the actual growth of effectiveness and originality of an individual extend within one's lifetime, and on the basis of data collected of my time interning during the winter and summer months, it's quite apparent that I am unable to make time, out of a combination of circumstance and motivation, for productive writing. Therefore, I should not focus on obtaining an English secondary while in college but rather focus more about how to create working habits and environments that enable me to develop effectiveness and originality through life.

2020 is looking to be an exciting year. After analyzing how I spent my time in 2019, the overarching focus and theme of the year 2020 will be creating working habits and environments that enable me to develop effectiveness and originality through life, beyond that of college.

To do so, I am looking forward to getting serious about research again, which I took a break from over the course of the last 1.5 years. I look forward to reading more journal articles in statistics

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<sup>9</sup>While I could hit the 10,000 hour mark of practicing software development while working pretty much anywhere, the quality of those 10,000 hours is just as, if not more, important as the very quantity of those 10,000 hours. Working at a startup (with slightly better mentors than the previous startup I worked at) or researching in academia would most probably meet this quality assessment. A discussion and essay for another time.

and writing more papers. I look forward to seeing how my habits carry through the summer, where I will be working “trader’s hours” and seeing how I can do better than last summer in minimizing after-work entertainment time and maximizing after-work design and composition time. No longer set on graduating with an English secondary and no longer taking any more CS courses, I have more freedom to experiment with software development (startups) and design and composition (film).

2020, here I come.