Gamer II

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Past Gaming Experience

This week was another hectic week during which I completed two finals (Mathematical Analysis and Mathematical Finance) – I've documented my reflections in the previous stories, so I am not going to write them again. Being at the very middle of the finals, I found myself in a mentally lonely state. Eventually I turned to gaming, by spending a $500 steam card over three games (JR East Train simulator, Tetris Effect: Connected and Civilization) and playing some of them. It made me recall how I used to be a gamer to resolve my emotions and escape from the world.

In Year 1, I wrote about how I identified myself as a completionist gamer, and how I learn from Tetris that I optimize the use of I and T pieces - corresponding to my strengths in life. Now, two years have passed, I become quite a bit stronger in Tetris in efficiency and decision making time; I've treated life as more of a game when I cope to each change by exploring variables bit by bit.

As a sequel to the previous passages, this week I want to write about game optimization, the escaping effect of games (handy for this couple of weeks and my recent mood downturns), and skewing bias in games and life.

Reverse Engineering for Optimization

Games eventually boil down to certain rules to approach the best state as possible. So, an aspiring gamer may try to find ways to get through/ utilize them. Say the entirety of Minecraft is originally coded in Java, and maps were generated using recursive algorithms - and computational gamers try to break through the game by reverse engineering.

We see people coding (unsupervised) machine learning algorithms to beat the sandbox game Minecraft, or implement auto-solvers in more bounded games like minesweeper and sudoku. In Super Mario Speedruns, we see content creators trying to frame wall glitches and the game's frame mechanics to optimize time. If every game has such rules, can we optimize by pinpointing then and polish ourselves by chasing after them?

It almost works as, mathematically, finding inverses to the game situations and applying transformations for optimal solutions.

Amid the noises and seeming difference between the final states we obtained in each trial, we try to apply inference in identifying the underlying noise generators. Say when an RPG game features random drops, some of us would try quantifying it by running thousands of attempts (usually algorithmically) and recording the statistics.

At this point the math guys would come in – say with commonly known distributions such as uniform, normal, or poisson distributions say

```
diceRoll = random.randint(1, 6)
```

```
s = np.random.normal(mu, sigma, 1000)
```

```
r = poisson.rvs(mu, size=1000)
```

We *game* the system in a game, consider those codes and the relevant known statistics – then make *informed* decisions out of the inferred means and variances.

Escaping from Real Life with Games

People like me find the act of optimizing extremely fascinating – as if games give us an open space to experiment and simulate things as long as we don't break the games. When we feel like it consumes one's mind each time to make decisions in life and one is cynical enough about the world they are living in, games are often good ways for quick escapes.

This was the exact line of rationality I used to cope with my secondary school days: when opportunities around are limited, with both acquintances and family never being warm enough, I ironically find the gaming community more welcoming as I build up my stats in the virtual world – and only it being able to match craves and stabilize things. Games kept me sane in the alone days.

Lately I find such thoughts flashing back, or maybe just even more intense – it feels as if I always have excess passion towards the world, wanting things to be optimal/ built well, while realizing how hideous the reality is. I want to escape and only be in the sphere where I experience things I am comfortable enough with.

Life is irreversible so sometimes, I do wonder what happens if we're provided with the ability to train and reverse engineer before we have to run through "non-reversible instances" of life, just like how we could run an infinite number of games before playing the very prime one?

Would I be able to avoid most downsides and negative feelings/ feedback I incurred when I was small? Would I be more coped with loneliness and self-internalizing, and in a better standing than I am now?

For now, I struggle in finding meaningful enough games to stick for years to "store my passion". Minecraft (6 years) and Tetris (5 years) have been pretty good choices, but I guess as my age goes up, my mindsets, preferred games and what they teach me each would change. The bottom line? Maybe go Wiki for each game to anticipate what I can do in the games haha.

I don't know, it's just – the game of life doesn't have a Wiki itself. I want to escape from life, but discovers after some time I still have to get back here.

Skewing Bias

Viewing life in the game context though, everything from our intimate circles, social recognition, money or even life span itself seem to be random variables. We are bounded by randomness: We can maximize the expected values by utilizing information advantage, but cannot avoid the downsides associated.

While in Visual Novels there are a limited number of branches and “desirable” paths can get triggered by certain educated guesses, life is a binomial tree with finite (but a TON lot) number of steps, and whether some decisions end up “defining” are only revealed after some time. So, the “Pricing” the expectation of the option of continuing “playing” the life game seems difficult.

If I am indifferent to keep living in the world or not by expected utility, I guess I will just believe in the option value of living in the sense that I continue to deliver value to myself, to people around, and to society if I could. Maybe, I will do my best by inferring all the randomness and everyone’s purposes around.

Trading itself is also a manifestation of games also. Traders make decisions on a mix of randomness and some reasonings – with information and execution advantage ensuring success.

The responses of traders get verified from a matter of minutes to days – and it is the pressure of making informed, educated guesses within short time (seconds) of inference horizon that keeps me alive – for me aiming to be a quantitative trader.

Through simulations after simulations, one’s information to the game’s playing field gives them advantage. Being conscious of how to improve further and play the game well is important – in the trading context – characteristics such as options delta skew, mean reversion effect of metrics, or the conditions for tail returns and their subsequent performance.

I feel like being a quantitative trader in this way, by being introspective while assessing things around with inquisitiveness and a risk-return mindset, I would make the best decisions both in life and at work.

I recalled I encountered a question in my quant interview preparation, about letting people decide their probabilities of flipping heads on a coin to skew payoffs to their favour, given a list of payoffs.

Maybe with years of careful inference and genuineness to both myself and the world, I would fare well despite the short-term volatilities – with a game map full of hidden treasures and resource points, that keeps growing in size over time.

I reckon if I am only level 20 now in life, I would still have tens of levels (expected) to go and advance – if I decide to live on? I will let fate answer this question; as a gamer, what I can do is just devote myself into the game.

I will continue to be TheSkillfulNoob, learning from my life by being a noob, and trying to be as skillful as I can be.