



DSci | Study
& Research

Data Science Journey

Mathematics

Domain
Knowledge

Computer
Science

5 years 1 month have passed

since the start of the journey on 3 January 2020.

Abstract

Data science is the study of data to extract meaningful insights for business. It is a multi-disciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, and computer engineering to analyze large amounts of data.

Inhaltsverzeichnis

I	Rubrics	2
1	Personal Rubric	3
1	Introduction	4
2	Serenity and Flow State	4
3	Perturbation	5
3.1	General Understanding	5
3.2	Horizon: Catalytic Events	5
	This year	6
	Current Five Years	6
	Longtermin: 20 Year Horizon Catalytic Events: 20 Years	8
	Visualization	9
	Modeling $B(t)$: Exponentially Decreasing with Latency	10
	Modeling $V_{FL}(t)$: Exponential Decay of State Value	10
	Reset Behavior	10
	Complete Behavior	11
II	Anhang	12
A	Abkürzungsverzeichnis	13

Teil I

Rubrics

Kapitel 1

Personal Rubric

Changelog:

- *v3*
 - 2 months 9 days have been invested since the start on 2024-12-20.
 - Update the Challenge Part to Flow State: The current ones are not sticking or I can not identify with it: Before there was an A.I. and My theory part. The personal
 - New Bored, because with **Neues-Familienmitglied (NFM)** it's become more important.
 - Milestone Roadmap.
 - New Perturbation
- *v2* Balance, between Serenity and Challenged.
- *v1* 2014 Just: Tolle Familie; Super Freunde! Unsterblichkeit

1 Introduction

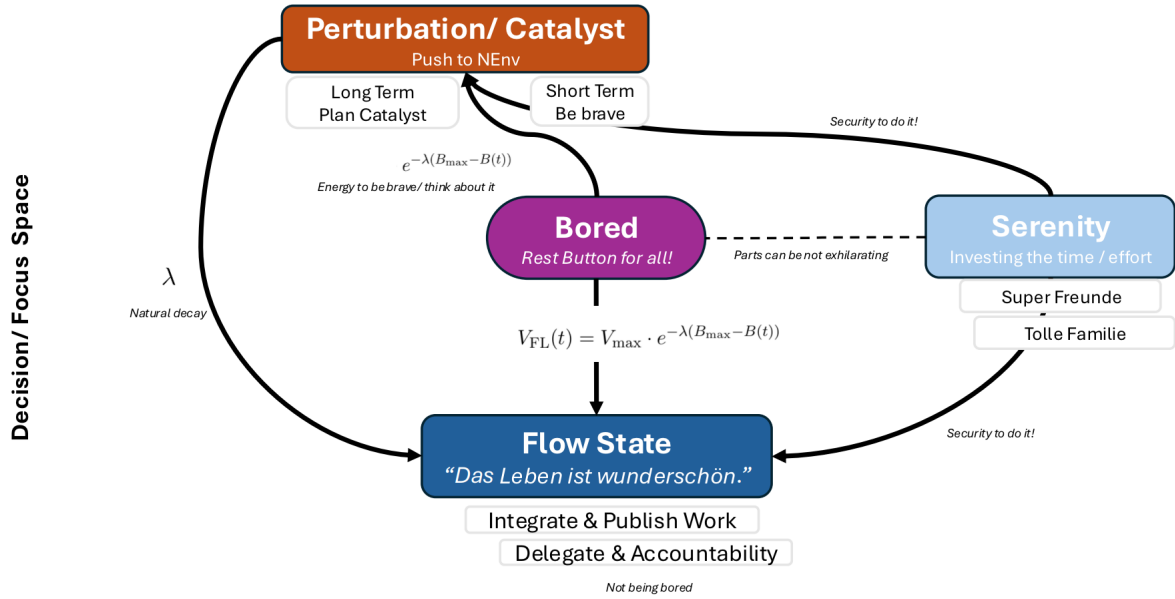


Abbildung 1.1: Decision and Focus Space (Desired and Necessary Feelings)

With v3, the personal rubric becomes more focused on:

- A new, more conscious state: **Being bored** – as a way to reset myself.
- Identifying and initiating **catalytic events** that **perturb** my current environment.

Previously, the state *Challenged* has been transformed into **Flow State**. This shift occurred to emphasize the feeling state rather than setting specific challenges—at least, not at this stage.¹

The *flow state* is placed at the bottom because it requires less focus, as there is a natural gravitation toward it.

On the other hand, *Serenity* remains the key state to prioritize. While it is still central, it does not require as much focus at the moment. With the added responsibility of NFM, the *reset button* has become more important—where previously, it was not a priority.

The aspect of *being challenged* is still relevant but is now integrated differently within this framework.

2 Serenity and Flow State

The underlying consideration is that maximizing the stimulating feeling of the Flow State (previously: "Challenged") in combination with a future-oriented focus (dopamine) does not provide a sustainable long-term foundation for me, as I do not want to forgo my goals for

- A wonderful family
- and great friends.

¹Certain aspects of the *Serenity* state fulfill this role as well, particularly with NFM and Franziska.

To experience the feeling of challenge without major sacrifices to overall well-being, I see maintaining a balance with the goals for the feeling of *Serenity* as essential.

I am aware that some challenges can be more easily achieved by postponing or abandoning set goals. However, my hope—and at the same time, my self-imposed challenge—is to find a way to set and accomplish challenges without having to sacrifice family and friendships.

3 Perturbation

3.1 General Understanding

Perturbing my current environment is essential for counteracting the decay of value, especially in the flow-state environments I inhabit.

For me, transitioning to new environments often requires a catalytic event rather than a slow, gradual shift. There is usually a barrier to overcome, and the natural gravitas of the flow state makes change difficult. Without a decisive disruption, adaptation tends to stagnate.

3.2 Horizon: Catalytic Events

In general, there should be only a few key topics within a given period that drive a push toward a new environment. The five-year horizon provides a better guide to identifying the desired perturbations. This yearly horizon focuses on what you actively commit your mind to.

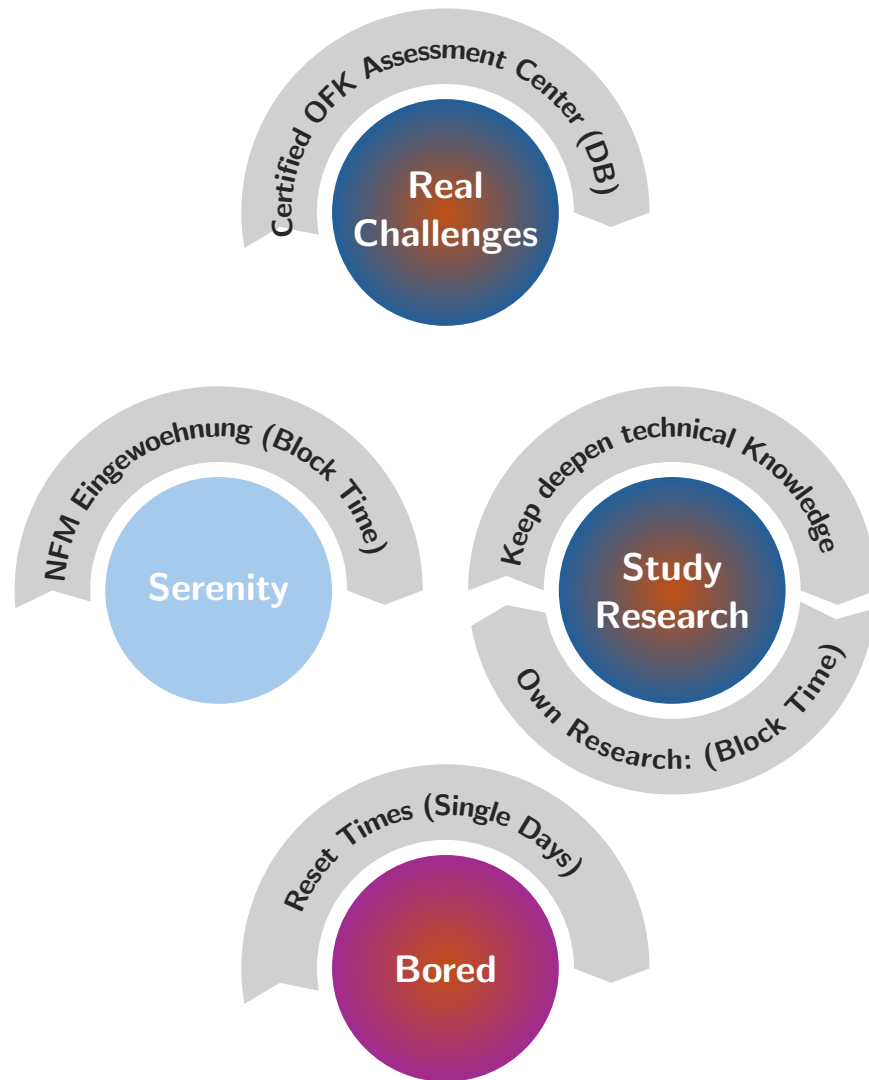


Abbildung 1.2: Meilstones untill 20.12.2025

This year Technically, placing **NFM Moment* (Serenity)** as a push towards a new environment under perpetuation might be understood as intentionally pushing myself out of the *flow state* to spend time with NFM.

Current Five Years In general, there should be only a few key topics within a given period that drive a push toward a new environment. The five-year horizon provides a better guide to identifying the desired perturbations.

This timeline is a tool to align and assess capacity and to conduct an honest assessment of what is possible.

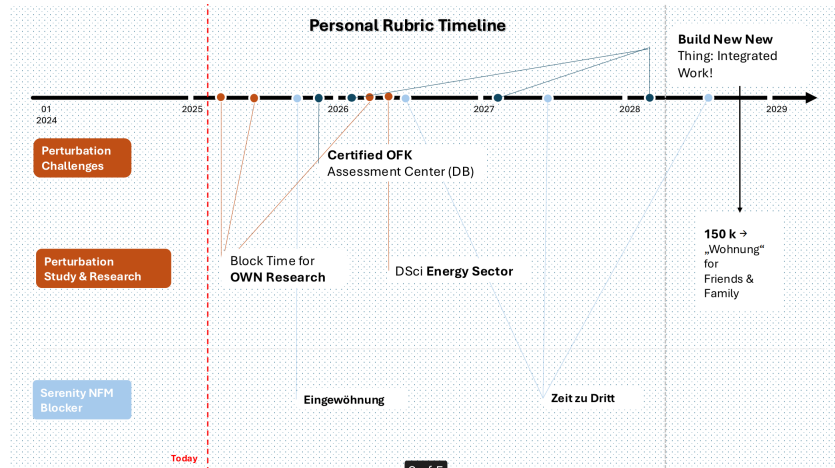


Abbildung 1.3: Time line next five years

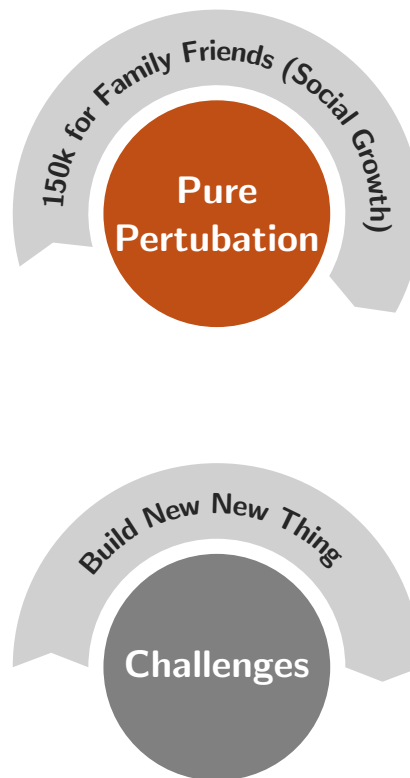


Abbildung 1.4: Five Year Periode untill 31.12.2029

Why the color gray? This is because no perturbation of the current personal environment is necessary—just focus and work.

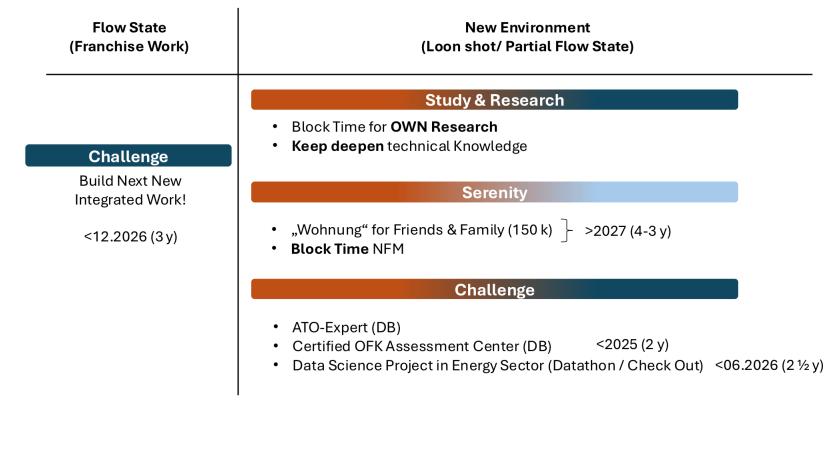


Abbildung 1.5: Details: Time line next five years

Longtermin: 20 Year Horizon Catalytic Events: 20 Years The push is that, during these periods, a jump into a new environment is required to sustain long-term growth and prevent decay. These five-year blocks are arbitrary intervals but serve to provide a long-term perspective, helping to clarify where you want to work towards.

- $V_{FL}(t)$: Decays exponentially in response to $B(t)$, resetting to V_{max} whenever $B(t)$ resets.

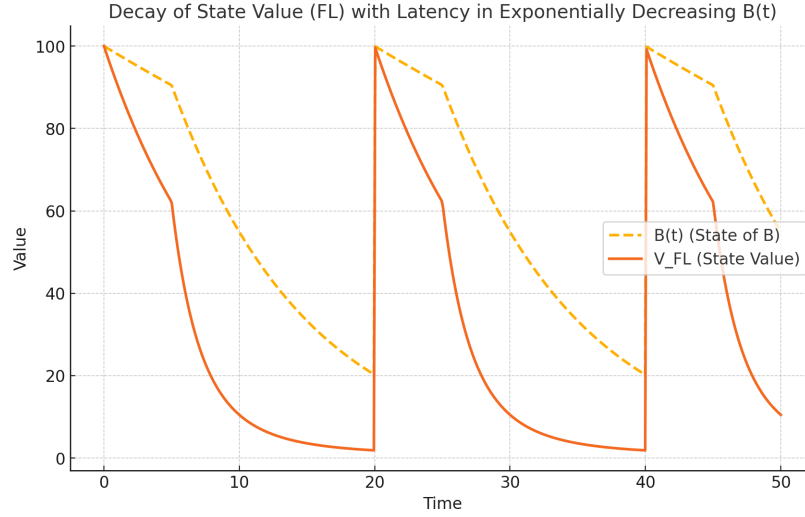


Abbildung 1.6: Desired and necessary feelings

Modeling $B(t)$: Exponentially Decreasing with Latency The function $B(t)$ is modeled as a piecewise exponential decay:

$$B(t) = \begin{cases} B_{max} \cdot e^{-\alpha t}, & \text{if } t \leq t_{latency}, \\ B_{max} \cdot e^{-\alpha t_{latency}} \cdot e^{-\beta(t-t_{latency})}, & \text{if } t > t_{latency}, \end{cases}$$

where:

- B_{max} : Maximum value of $B(t)$ when reset.
- α : Decay rate during the latency period (slow rate of decrease).
- β : Decay rate after the latency period (faster rate of decrease).
- $t_{latency}$: Duration of the latency period.

Modeling $V_{FL}(t)$: Exponential Decay of State Value The state value $V_{FL}(t)$ decays exponentially as $B(t)$ decreases. It is given by:

$$V_{FL}(t) = V_{max} \cdot e^{-\lambda(B_{max}-B(t))},$$

where:

- $V_{FL}(t)$: Value of the state FL at time t .
- V_{max} : Maximum possible value of $V_{FL}(t)$.
- λ : Decay constant for $V_{FL}(t)$.

Reset Behavior

- $B(t)$ resets to B_{max} after reaching a threshold (e.g., $B(t) \rightarrow 0$), periodically every T_{reset} seconds.
- This causes $V_{FL}(t)$ to restart from its maximum possible value, V_{max} , after each reset.

Complete Behavior Combining these equations:

1. For $B(t)$:

$$B(t) = \begin{cases} B_{\max} \cdot e^{-\alpha t}, & t \leq t_{\text{latency}}, \\ B_{\max} \cdot e^{-\alpha t_{\text{latency}}} \cdot e^{-\beta(t-t_{\text{latency}})}, & t > t_{\text{latency}}, \end{cases}$$

where t resets to 0 after T_{reset} .

2. For $V_{\text{FL}}(t)$:

$$V_{\text{FL}}(t) = V_{\max} \cdot e^{-\lambda(B_{\max}-B(t))}.$$

I'm came with abilities and an emotional imprint.

I can build up domain knowdledge an update this, to combine with my concitive abilities. How ever, think about how I feel, how I want to feel and how I may need to change how I feel, in order to satifice my core imprint, this the goal for this - Homostatice

I can't do much about the former, except build better prediction models for my self and a cummlate knowledge - but even this is limited. The later however, is more malible, or at least essesing it.

Teil II

Anhang

Anhang A

Abkürzungsverzeichnis

N

NFM Neues-Familienmitglied. 3, 4, 6