feedzai

CODE BOOK

A NOTE FROM NUNO

I'm incredibly proud of what we are all building here at Feedzai. Who would have imagined that we could create a company that keeps trillions of dollars safe every single day? Every team in our growing company plays a role in creating this incredible technology and putting it into the world in a way that truly benefits millions of people across the globe.

We spend a lot of time talking about artificial intelligence and how we use technology to achieve our goals. While we do that, we must never forget that the Human Factor — Feedzaians, our people — are our greatest asset. I'm thrilled that so many of the brightest and hardest working individuals I've ever met are together on this journey. It's our people that fuel our growth, and it's their growth that fuels our collective dream to keep creating such an important impact on the world.

Thank you.

Nuno Sebastião
Feedzai CEO and co-founder

FEEDZAI'S HISTORY

Feedzai's three co-founders set out to create the most innovative and powerful solution to make banking and commerce safe.

With esteemed backgrounds as machine learning professors and engineers at the European Space Agency, our co-founders anticipated the "big bang of the data verse" and how artificial intelligence would become the driving force in nearly every industry.

They also realized that financial crime is one of the most significant risks to the global economy.

Over the years, Feedzai has built the first RiskOps platform, servicing clients across the globe and protecting the world's largest banks, payment processors, and merchants.

We drive this through People, Client, and Product Excellence and by being a Client-First obsessed company.

Today, Feedzaians safeguard trillions of dollars worth of transactions daily, stopping criminals in their tracks. Collectively, we are bringing cutting-edge machine-learning technology and next-generation visualizations to our RiskOps platform, being a single-source solution for our clients.

GRIT

GRIT IS PUSHING THROUGH WITH PERSISTENCE AND PERSEVERANCE

Grit is synonymous with resilience, commitment, and endurance for our long-term goals. Feedzaians create products of the future knowing it may take multiple iterations to get it right.
However, we learn from mistakes along the way and keep striving to get it right. At Feedzai, we don't say "we can't do that", but rather "we are figuring out an innovative way to solve that challenge."

OUR PRINCIPLES IN ACTION

In 2017, Feedzai hosted an event called AI Deep Dive at Money20/20 Las Vegas, bringing technical leaders across industries together for a kind of "Davos of AI" in the financial industry. While the event was a huge hit, with thousands more people than expected, overflowing the venue, it was clear that there was a lack of a messaging concerning the kind of safety and ethics around AI that is critical to Feedzai.

Therefore, we decided to raise this topic on a much more global stage. Thus, the idea of Nuno engaging with the late Professor Stephen Hawking onstage at Web Summit in front of 20,000 people was born.

Making this happen was no easy acomplishment. The team explored many different avenues to make this idea a reality. We had a signed letter of invitation from the Prime Minister of Portugal delivered to Professor Hawking's office in Cambridge, we reached out to his daughter, and we even had some of our team try to track him down at the University of Cambridge.

Finally, he accepted our invitation. Unfortunately, the week before the event, Professor Hawking's already risky health state took a major turn for the worse. He ended up recording a video for us to use onstage, which we received just 72 hours before the presentation. This video, which Nuno introduced to the massive audience after telling them about Feedzai and our mission, made headlines worldwide and would end up being the professor's last ever public address.

RAISE THE BAR

RAISING THE BAR IS ABOUT CONTINUOUS IMPROVEMENT AND PUSHING OURSELVES TO EXCEED TARGET GOALS

By having this mindset, we can reach our fullest potential. We have high expectations for ourselves, and we constantly challenge ourselves to go just a little further. We are building and selling new and innovative products, the likes of which currently do not exist. Feedzaians aim for the star and, by doing so, we achieve more than we ever thought possible. Ask yourself and your teammates: "WWGLL - What Would Great Look Like?"

OUR PRINCIPLES IN ACTION

Relationships with enterprise-level clients can be complicated. Due to an unexpected fraud spike and a relationship that felt like it was deteriorating day by day, one of our retail customers was questioning if Feedzai was the right solution for them.

With a focus on continuous improvement, the team mustered resources from across the company to support their efforts to delight our customers. Analyzing not only the fraud spike but the ongoing challenges faced by the client, the team was able to identify a number of solutions to rectify the problem.

Our data scientists trained and retrained our model to identify specific types of fraud faster, the team partnered with external parties to get access to better data, the account team worked with the customer to assign more analysts to the project and re-evaluated the best limit at which to block transactions. This multi-pronged approach had many ups and downs, but in the end, resulted in a complete turnaround of the relationship in just under a year.

OWNERSHIP

OWNERSHIP IS ABOUT TAKING ACCOUNTABILITY FOR THE OUTCOMES OF OUR WORK

Ownership also means doing the right thing because we feel a responsibility for the consequences, liabilities, and reputation that are impacted by our choices. Because we own the outcomes of our work, we are able to trust and count on each other. Feedzaians contribute to the company's growth by taking initiative, identifying opportunities or challenges that aren't necessarily in their scope of work, and deciding that they will take ownership of finding a complete solution. It is about going beyond the boundaries of our role and seeing things to fulfillment.

OUR PRINCIPLES IN ACTION

On November 2017, our research team decided to organize an internal meeting with different stakeholders in order to identify the main pain points of our data scientists. Scaling our data science team was clearly a struggle. Our client base was growing at a much faster pace than our data science talent pool. The question was this: how do we reduce the time and effort spent per data scientist, per project?

During this session, the group realized that several of the data science tasks were almost identical from project to project, and data scientists were applying the same steps and techniques in every project. This realization led to a clear solution: start automating data science tasks, which would save data scientists´time and save them from the frustration of having to perform repetitive work.

In early 2018, a member of the research team decided to take on the challenge of solving this problem. He identified the most time-consuming and repetitive tasks from the data science pipeline and started

exploring different ways to automate them. It was a bumpy road with a lot of failed experiments. The first task was automating feature engineering. However, the first solution he designed was taking too long to run and generating too many irrelevant features. The iterations that followed also did not produce satisfactory results. It was frustrating, but he did not give up. With the help of the entire research team, he was finally able to design the first version of the Feedzai AutoML solution.

Due to the incredible results that AutoML was able to achieve during the research phase, it was prioritized to be integrated into the product in September of 2018. The development took 3 months, thanks to a cross-functional team (working across all three Portuguese offices) that came together and went above and beyond
to ensure that our data scientists could benefit from Feedzai AutoML as soon as possible.

WIN TOGETHER LOSE TOGETHER

OUR SUCCESSES AT FEEDZAI ONLY COME THROUGH WORKING TOGETHER AS A TEAM

We are truly greater than the sum of all of our parts — we win together, we lose together. When something great happens, we celebrate together. When things do not go well, we take a step back to consider what could have been done better. We collectively learn from our mistakes. Together, we are one team at Feedzai.

OUR PRINCIPLES IN ACTION

A potential customer asked for a proof of concept (PoC) on two potential scenarios that needed to be delivered in just 3 weeks. This was twice the amount of work and half the amount of time in comparison to a normal PoC. In addition, the sample data provided was limited and not the greatest quality. As a result, the team decided to deliver only one scenario, in order to show how the customer could use our tools, focusing on the quality of the product, rather than the outcomes.

As the team developed the first scenario, they realized that it would be challenging, yet possible, to prepare for two scenarios while still being able to highlight the quality of our tools. As the models progressed, the team noticed that, although the sample data was not of great quality, they were starting to show some good results. So, the team pushed themselves harder, demanding

more of themselves than was expected. The end result was a demo of our product for the two scenarios, with strong results in both cases. The customer was very impressed. Our team had surpassed what they had expected, which had been a demonstration of the types of things our products could do. By aiming high and not settling for the easy way forward, Feedzaians were able to do what they, and the customer, had not thought possible at the start of the project.

THINK GLOBALLY

THINKING GLOBALLY IS ABOUT BEING AWARE THAT THE DECISIONS AND ACTIONS WE TAKE IN OUR DAY-TO-DAY WORK IMPACT AND INFLUENCE OTHERS

Understanding how our work impacts others allows all of us to do what is best for Feedzai, as a whole. Think Globally goes beyond acknowledging that Feedzai spreads throughout different countries and cultures. It means thinking about the forest — not just your individual tree.

HUMAN FACTOR

OUR 5 PRINCIPLES WOULDN'T MEAN ANYTHING IF IT WASN'T FOR THE HUMAN FACTOR. THAT'S WHAT REALLY MAKES FEEDZAI UNIQUE: OUR PEOPLE.

We grow by striving for a better and safer world, building on our mistakes and accomplishments, and achieving great things. This is what makes Feedzaians extraordinary.

We strive to excel, and truly aim to learn and grow. We love to have fun together at our wine downs and other celebrations. We care about respect and value our culture of flexibility.

Feedzai's secret power relies on our Human Factor.

CULTURE OF LEARNING

FINALLY, A NOTE ON ONE OF THE MOST RELEVANT PILLARS OF FEEDZAI CULTURE: LEARNING.

Feedzaians have a growth mindset, which is the belief that talent is not set in stone and skills can be developed with the right effort.

Feedzai empowers each and every Feedzaian to realize their full potential. By promoting a culture where Feedzaians have access to learning experiences and training opportunities, we are able to transform ourselves, our careers, and ultimately the company´s destiny.

At Feedzai, we learn and grow.